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Gender and Change over Time on Reading Achievement for English Learners in Grades 3-4 in Northwest Arkansas

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GENDER AND CHANGE OVER TIME ON READING ACHIEVEMENT FOR ENGLISH LEARNERS IN GRADES 3-4 IN NORTHWEST ARKANSAS

by

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ABSTRACT

by
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December 2020

Title: Gender and Change over Time on Reading Achievement for English Learners in Grades 3-4 in Northwest Arkansas (Under the direction of Dr. Michael Brooks)

The purpose of this dissertation was to determine the effects by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 for ELPA21 Beginning and ELPA21 Intermediate levels for third- and fourth-grade students from a school district in Northwest Arkansas. This study is important because serving English learners, which is the fastest growing population of students, will help close the achievement gap and eliminate gender bias. This study is rooted in the five main hypotheses of Krashen's theory of second language acquisition (Krashen, 1981, 1982, 2002). To address each of the four hypotheses, a 2 x 3 mixed factorial analysis of variance was conducted with a repeated measures on the last factor. An alpha level of .05 was set to test each null hypothesis. The results indicated that change over time was significant for all hypotheses. Therefore, regardless of grade level, ELPA21 level, or gender, students significantly increased reading achievement scores. In the third-grade ELPA21 Beginning level, females scored significantly higher than males, regardless of change over time. However, the results for Hypotheses 2-4 supported the notion that instructional strategies did not favor one gender. The results

from this study are meaningful to educators and administrators who are concerned about providing effective supports and instructional strategies for English learners. Educators and policymakers need to be informed of the benefits of instructional methods and professional development available to best serve English learners.

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CHAPTER I

INTRODUCTION

Elementary years provide students with an essential foundation for acquiring reading skills. Particularly in kindergarten through second grade, students work closely with phonics and learning how to read (Egan, 2014). By focusing on third- and fourth-grade students, educators can focus on the transformation that occurs between learning to read and reading to learn by planning, accommodating, and individualizing learning to meet the needs of students in the classroom (Chall & Jacobs, 2003; Hernandez, 2011; Musen, 2010; National School Boards Association, 2015; Sibanda & Baxen, 2018). When students have not maintained reading proficiency at the kindergarten through second-grade levels, intensive instruction in phonics and reading skills needs to continue to close the achievement gap. Therefore, students in third grade and fourth grade need reading instruction to obtain reading proficiency levels and strengthen foundational skills.

Certain groups of students in third grade and fourth grade seem to be more susceptible to being low in reading achievement. According to the University of Arkansas-Office for Education Policy (2018), low achieving readers in third grade typically consisted of students with free or reduced lunch status, African American and Hispanic students, and males. Specifically, graduation rates of African American and Hispanic students who were not proficient readers in third grade were significantly lower in comparison to the graduation rates for Caucasian students with the same reading skills

(Hernandez, 2011). To close the achievement gap, teachers must be able to identify struggling readers in early elementary grades in order to serve students and guide them toward success.

To reach most students, teachers need to use best teaching practices, implement productive professional development training and strategies, and include effective learning resources. Because reading is an essential skill for academic and career success, teachers should engage learners and encourage students to be successful in academic achievements (Tomlinson, 1999). Educators also need to know what techniques work in training native, as well as non-native, English speakers to learn English effectively and evaluate how all their students are progressing through the process of learning (McKeachie, 1995; Tomlinson & Dockterman, 2002). An educational term known as English learners (ELs) is used throughout several school districts to refer to students who are non-native English speakers but working toward English proficiency and fluency. The present study attempted to determine if differences existed for students in Grades 3 and 4 who were categorized into two levels (Beginning and Intermediate) according to scores on the English Language Proficiency Assessment for the 21st Century (ELPA21) Reading Test used for sampling purposes only. Gender and change over time were factors in this study.

Statement of the Problem

Four purposes existed for this study. First, the purpose of this study was to determine the effects by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 for ELPA21 Beginning third-grade students from a school district in Northwest Arkansas. Second, the

purpose of this study was to determine the effects by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 Test for ELPA21 Intermediate third-grade students from a school district in Northwest Arkansas. Third, the purpose of this study was to determine the effects by change over time between males versus females on reading achievement measured by NWEA MAP Growth Reading 2-5 AR 2016 Test for ELPA21 Beginning fourth-grade students from a school district in Northwest Arkansas. Fourth, the purpose of this study was to determine the effects by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 Test for ELPA21 Intermediate fourth-grade students from a school district in Northwest Arkansas.

Background

Theoretical Framework: Krashen's Theory

One theory that addresses how a second language is learned is Stephen Krashen's theory of second language acquisition, which will henceforth be referred to as Krashen's theory. When individuals learn a non-native language, a different type of brain activity and learning occurs. Krashen's theory describes the reasoning and rationale the brain must undergo for second language acquisition to occur (Krashen, 1981, 1982, 2002). Widely accepted since the 1980s, Krashen's theory identifies five main hypotheses regarding the successful acquisition of a second language (Krashen, 2002). Acquisition-learning, monitor, natural order, input, and affective filter are the five main hypotheses of Krashen's theory that provide insight on the process as to how individuals successfully learn a new language with the later addition of another sub-hypothesis called the *reading*

hypothesis (Bilash, 2009; Krashen, 2002, 2018). By understanding the processes and conditions students undergo while learning English, teachers can provide meaningful instruction to cater to students' needs. When Krashen's theory is combined with best practices and professional development, educators are equipped with the necessary skills to accommodate ELs with various learning styles.

Legal and Historical Overview

Historically, the United States has been composed of people who emigrated from many countries and spoke many languages. However, over the years, Congress determined that basic laws should be enacted to protect people's fundamental rights established in the United States Constitution. For programs receiving federal funds, Congress passed Title VI of the Civil Rights Act of 1964, which prohibited discrimination based on race, color, or national origin (United States Department of Justice, 2018). In the following years, other acts aided students in learning English as well. The Elementary and Secondary Education Act of 1965 allotted money for disadvantaged schools (Hakuta, 2015). The money for disadvantaged students indirectly included many ELs who lived in poverty. In 1968, the Bilingual Education Act, also known as Title VII of the Elementary and Secondary Education Amendments of 1967, directly added more opportunities for protecting ELs. The Bilingual Education Act promoted the development of academic programs that would help students with limited English-speaking abilities. Additionally, there was a necessity for teachers who could speak different languages to help teach students English.

Further, the *Lau v. Nichols* ruling in 1974 shaped the model for protecting ELs and their rights in education. The Court stated that school district administrators were

responsible for taking steps to help limited English proficiency students overcome language barriers and participate in educational programs (*Lau v. Nichols*, 1974). By promoting academic achievement and using federal funding to correct linguistic deficits, equal educational opportunities were provided for students. Because of the *Lau v. Nichols* (1974) ruling, teachers and administrators were able to apply the interpretation to school policies to service ELs toward equitable academic achievement. Collectively, acts and rulings between the mid-1960s and mid-1970s affected schools across the United States and initiated a change regarding the outlook of education.

Political shifts and policy changes continued affecting the United States over the following decades. Ronald Reagan encouraged an English-only education (Jost, 2009). Both Ronald Reagan and George Herbert Walker Bush supported standards-based education in the 1980s, which provided a benchmark for ELs to progress toward grade level while decreasing the achievement gap (Kuehl, 2012). Later, Bill Clinton signed the Improving America's Schools Act of 1994 to continue standards-based education. Another political change in the early 2000s was the No Child Left Behind Act of 2001 which was signed into law by George W. Bush, son of George Herbert Walker Bush, and designated funds to ELs that tracked adequate yearly progress in reading and mathematics (Dee, Jacob, Hoxby, & Ladd, 2010; Hakuta, 2015). In the 2000s, Barack Obama signed the Every Student Succeeds Act to lessen the emphasis on student test scores and required states to have entrance and exit procedures established for ELs (Colorin Colorado, 2019; Turner, 2015). With political advances and shifts in education, ELs have obtained more protected rights and funding to ensure equitable educational opportunities. Politicians have helped shape students' rights in education for years.

Reading Achievement

An abundance of skills contributes to reading achievement. Constrained skills, such as alphabetical and phonological awareness, usually develop within a narrow period (Lennox, 2013). Unconstrained skills, like comprehension and vocabulary, tend to develop through life and experiences (Lennox, 2013). For example, the foundation of literacy skills lies within first understanding what components compose the language, such as the alphabet letters and sounds. The knowledge, comprehension, and application of print concepts and phonological awareness begin the cognitive process, which develops into more complex domains over extended periods of time to include higher thinking levels of expanded vocabulary and inferential thinking. Therefore, the process of developing skills toward reading achievement moves from learning to read to reading to learn.

Reading achievement gaps could exist between certain demographic groups of students. The United States Department of Education (2017) reported that ELs were the fastest-growing population in the nation. In the state of Arkansas, the University of Arkansas-Office for Education Policy (2018) reported that low achieving third graders consisted of students with free or reduced lunch status, African American and Hispanic students, and males. Across the state of Arkansas and the nation, third- and fourth-grade students have struggled with reaching proficiency levels in reading. Graduation rates of Hispanic EL students who were not proficient readers in third grade were significantly lower in comparison to the graduation rates for Caucasian students with the same reading skills (Hernandez, 2011). Researchers agreed that reading achievement gaps exist between ELs and native English speakers (Ardasheva, 2010; King, 2017; Schleeter,

2017). When students struggle with reading achievement, the path to graduation is affected. Only about 11% of the low achieving readers in third grade reached proficiency reading levels by high school (University of Arkansas-Office for Education Policy, 2018). Buchsbaum (2013) studied the trajectory rate of fifth-grade EL students and determined students would not read on grade level by high school graduation. Therefore, upper elementary grade levels are foundational and pivotal years for students in determining success factors later in students' lives. Because ELs are susceptible to lower reading performance, teachers need to implement best practices and instructional strategies to address the differentiated needs of ELs to help students obtain reading achievement at proficiency levels.

In response to the reading dilemma in the state of Arkansas, Governor Hutchinson allotted funds to provide struggling students with equitable resources. According to the Arkansas Department of Education (2018), the reading initiative focused on new instruction to increase reading achievement in the state. Three goals of the reading initiative included strengthening instruction, collaborating with the community, and building a culture of reading (Arkansas Department of Education, 2018). Educators can be supported by community members while providing coherent instructional strategies to students in need. Consequently, a culture of reading can be built when community members, educators, and students work together.

Reading Achievement and English Learners

Students learning English as a non-native language are commonly referred to as English learners or ELs. E.L. Achieve (2019) defined three levels during fluently learning English. The beginning level is when students acquire vocabulary to make meaning of

words and form simple sentences. The intermediate level is when students acquire verb conjugations and descriptive adjectives to combine elaborative sentences. The advanced level is obtained when students can use complex sentences with precise vocabulary (E.L. Achieve, 2019; Peregoy & Boyle, 2008). Assessment data may be interpreted more accurately when ELs are correctly identified and grouped by level. Once the level of the student is determined, educators can apply the best teaching methods to instruct students.

Two effective learning strategies for instructing ELs to increase reading achievement are integrated English language development and designated English language development. While integrated English language instruction focuses on incorporating English into every classroom environment, the designated English language instruction focuses on direct, explicit instruction of the English language (Carter, 2017). However, Thomas and Collier (1997) contended that to have successful programs, these types of instructional approaches must be founded on effective educator collaboration. Students' language acquisition processes may also be enhanced through classroom tasks, extended teacher planning time, and focused staff development (Thomas & Collier, 1997). Both instructional strategies require careful planning and can provide the foundation for a successful language acquisition program. Thus, both types of instruction seem to be essential for ELs to master the English language in an academic environment.

Students need interventions to target and address necessary language acquisition skills, such as in reading. King (2017) claimed that students with an EL instructional pull-out intervention that supported reading instruction had significantly higher reading achievement levels. However, Hernandez (2011) warned that interventions were not as effective after the third grade. Because students can be supported with additional pull-out

interventions, reading achievement scores might reveal higher growth and proficiency by third grade. Researchers conducted studies on best practices and instructional techniques to determine how to teach reading strategies to ELs (Ardasheva, 2010; Egan, 2014; Goldenberg, 2008; King, 2017; Loney, 2016). When educators are supported through research, strategies can be applied during instruction to help students progress through developmental levels of learning English. Through training and collaboration, effective integrated English programs support ELs to close achievement gaps.

Reading Achievement of English Learners by Gender

Students learn differently through various learning strategies to progress toward reading achievement. In their research, Callan, Marchant, Finch, and German (2016) defined learning strategies broadly to include cognitive and control strategies such as memorization, elaboration, understanding, remembering, and summarizing, which all contribute to learning and organizing new information when obtained. Using this definition, Callan et al. found that EL females were significantly more likely to use learning strategies in comparison to EL males. In the United States, Bembenutty (2006) and Tang and Neber (2008) also concluded that females tended to use more learning strategies and use these more often than males. Because learning strategies are strongly correlated to reading achievement, underachieving EL males could potentially benefit from additional training and practice using and applying learning strategies. To successfully achieve, various learning strategies must be accessed and applied by males and females.

Males and females use learning strategies in different ways. Catalán (2003) contended that the two genders perceived information differently and concluded that

males and females learn and use strategies differently. In particular, Catalán found a significant difference between males and females and how they used learning strategies, noting that females used a significantly higher amount of vocabulary strategies. Because vocabulary contributes to reading achievement, an achievement gap could occur between males and females. Therefore, males could benefit from more attention from educators in learning strategies with vocabulary and when applying new knowledge to reading.

Hypotheses

1. No significant difference will exist by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 Test for ELPA21 Beginning third-grade students from a school district in Northwest Arkansas.
2. No significant difference will exist by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 Test for ELPA21 Intermediate third-grade students from a school district in Northwest Arkansas.
3. No significant difference will exist by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 Test for ELPA21 Beginning fourth-grade students from a school district in Northwest Arkansas.
4. No significant difference will exist by change over time between males versus females on reading achievement measured by NWEA MAP Growth Reading 2-5 AR 2016 Test for ELPA21 Intermediate fourth-grade students from a school district in Northwest Arkansas.

Description of Terms

Achievement gap. An achievement gap is a significant difference in academic performance between different groups of students, such as English learners and native English speakers (Ansell, 2011).

Arkansas Department of Education (ADE). The Arkansas Department of Education added a division, which is referred to as the Division of Elementary and Secondary Education (DESE), in the fall of 2019 (Division of Elementary and Secondary Education, 2019). Therefore, citations from this agency before the fall of 2019 will be designated as the Arkansas Department of Education and after the fall of 2019 denoted as DESE.

Designated English Language Development. A protected block of time set aside each day solely for language instruction based upon the individual language level of ELs (Carter, 2017).

English Language Development Levels. English Language Development is a type of curriculum and instructional program that takes a systematic approach to English instruction to grow non-native speakers' proficiency in English as the language is progressively taught by instructors and learned by students (E.L. Achieve, 2019). E.L. Achieve (2019) defined three different levels in the process of learning English before learners become fluent. In the beginning level, students can form simple sentences. At the intermediate level, students can combine elaborative sentences. Students at the advanced level use complex sentences with precise vocabulary.

English Language Proficiency Standards. Measurable goals in language skills used to assess progress toward grade-level or developmental benchmarks (Arkansas ELPA21 Scoring Interpretation Guide, 2017).

English language learner (ELL). ELLs are students who have a native background or family who speaks any language besides English in the home (Arkansas ELPA21 Scoring Interpretation Guide, 2017).

English learner (EL). Commonly referred to as ELLs, ELs are students who have a native background or family who speaks any language besides English in the home (United States Department of Education, 2017). The sample for this study was designated as ELs.

English Language Proficiency Assessment for the 21st Century (ELPA21). This assessment was designed using English proficiency standards to assess English learners' abilities to meet or exceed grade level expectations of the English language in academic content areas (Arkansas ELPA21 Scoring Interpretation Guide, 2017). For this study, ELPA21 levels were used for sampling purposes only and not as the dependent variable. In the sample, students were stratified by ELPA21 levels (Beginning or Intermediate).

Integrated English Language Development. Language instruction takes place in core content classes to support comprehension of the material for ELs (Carter, 2017).

NWEA MAP Growth Reading 2-5 AR 2016 Test. Standardized testing is used to evaluate students' academic success or learning of a set of skills. The NWEA MAP Growth Reading 2-5 AR 2016 Test has about 40 questions and uses a Rasch Interval Unit score to predict students' ability to answer 50% of the questions correct at the benchmark

level (NWEA, 2018). The interim tests are administered three times per year to record growth in reading for each student in the district examined. In the exam name, 2-5 refers to students in second through fifth grade who take the test. In the exam name, 2016 refers to the year the test was last modified. For this study, data were used from the 2018-2019 school year, and the NWEA MAP Growth Reading 2-5 AR 2016 Test was the only dependent variable for this study.

Pull-out interventions. Pull-out interventions involve supplemental instruction outside of the classroom to target the specific skills needed for students to fulfill deficit areas (King, 2017).

Reading achievement level indicators. According to the ELPA21 standardized assessment, indicators categorize students into one of five groups (Beginning, Early Intermediate, Intermediate, Early Advanced, or Advanced) according to a range of reading scores. The score ranges are based on acquired skills and standards as assessed in each grade level (Arkansas Department of Education, 2017). For this study, ELPA21 levels of Beginning or Intermediate were used for sampling.

Significance

Research Gaps

Over the years, the United States has experienced rapid growth in the EL population. Therefore, studies have been conducted to research achievement gaps between ELs and native English speakers (Ellet, 2014; King, 2017; Steffan, 2018). Ardasheva (2010), King (2017), and Schleeter (2017) conducted studies to identify achievement gaps in reading between ELs and students who were native English speakers. King (2017) suggested that academic success was linked to reading

achievement and grade-level proficiency because reading is a foundational skill for learning. Other studies have been conducted to report best practices and instructional techniques for teaching reading strategies to ELs (Ardasheva, 2010; Egan, 2014; Goldenberg, 2008; King, 2017; Loney, 2016). Additionally, researchers have performed examinations at kindergarten, first grade, and second grade when reading and phonics are heavily taught (Egan, 2014). However, few studies have addressed differences between males and females at the various levels of ELs and change over time in reading achievement for students in the third grade and fourth grade. Regardless, the rapid influx of ELs has contributed to the achievement gap in reading.

Possible Implications for Practice

Schools across the United States have had high enrollments of ELs since the 17th century due to immigration from other countries. ELs are the fastest growing population in public schools in the United States (United States Department of Education, 2017). To keep up with the rapid influx, administrators and teachers in school districts should closely monitor the rising population to ensure that students are developing and learning at average or above average rates. Upon completion of this study, students may benefit from stakeholder support and research-based practices. Learning supports could be applied with training for teachers of male and female EL students to ensure that the achievement gap is not widening between them and their native language peers. Administrators may be able to implement professional development training for teachers of male and female EL students who learn in different ways and at various speeds when learning a new language. Likewise, parents and guardians of EL students would benefit from knowing that their male and female children are succeeding in learning a new

language and applying that knowledge to academic learning. The community may benefit when EL students graduate on or above grade level and use proficient bilingual skills in jobs and careers. With collaborative learning and by working together, all can benefit.

Process to Accomplish

Design

For this study, a quantitative, causal-comparative strategy was used. For Hypotheses 1 through 4, I used four 2 x 3 mixed factorial designs with a repeated measures on the last factor. The between-groups independent variable was gender, and the within-subjects independent variable was change over time with each student tested three times within a school year. The only dependent variable for Hypotheses 1 through 4 was reading achievement measured by students' scores on the NWEA MAP Growth Reading 2-5 AR 2016 Test. Students' scores for data were used from the 2018-2019 school year.

Sample

The sample included scores from third- and fourth-grade EL students in a Northwest Arkansas school district. The students' scores were selected from two accessible populations, ELPA21 Beginning and ELPA21 Intermediate, and then stratified by gender. Regarding race, the school district had a student population that consisted of Caucasian, African American, Hispanic, Pacific Islander, and Asian American students. The school district had grade-level configurations in the elementary schools consisting of kindergarten through fifth grade with comparable population sizes. In each school, the teacher to student ratio was 1:14. The third grade ELPA21 Beginning group consisted of 100 scores from students: 50 were female (50%), and 50 were male (50%). Additionally,

the third grade ELPA21 Intermediate group consisted of 100 scores from students: 50 were female (50%), and 50 were male (50%). The fourth grade ELPA21 Beginning group consisted of 89 scores from students: 44 were female (49%), and 45 were male (51%). The fourth grade ELPA21 Intermediate group consisted of 100 scores from students: 50 were female (50%), and 50 were male (50%).

Instrumentation

To determine reading achievement and proficiency, a nationally-recognized standardized assessment was used as the dependent variable. Students' scores were used to determine reading achievement based on norms for proficiency levels. The NWEA MAP Growth Reading 2-5 AR 2016 Test consisted of multiple-choice questions (NWEA, 2013, 2019). The NWEA MAP Growth Reading 2-5 AR 2016 Test items ranged in difficulty, and the test was norm-referenced. Widely recognized across the nation to measure reading achievement over the years, the NWEA MAP Growth Reading 2-5 AR 2016 Test used only multiple-choice questions (NWEA, 2013, 2019). Questions are scored according to the Rasch Interval Unit (RIT) scale to determine scores with previous MAP tests. The RIT score predicted the student's likelihood of getting approximately half of the questions correct at a benchmark level (NWEA, 2018). The interim NWEA MAP Growth Reading 2-5 AR 2016 Test was used to measure reading achievement for the students. Teachers and administrators can view students' scores from the three interim tests administered throughout the school year to evaluate and analyze growth and trends.

Students at each school were administered the interim NWEA MAP Growth Reading 2-5 AR 2016 Test three times per year in their classrooms. The teachers

collected the scores and input the data into an Excel spreadsheet. The RIT score was then used to compare by gender and change over time for the two ELPA21 Beginning or Intermediate levels and the two grade levels. The authors of the assessment noted that the scores of the instrument had been calculated using a marginal reliability coefficient (NWEA, 2004). For Arkansas schools, the internal consistency reliability coefficient for third-grade reading growth was .936, and fourth-grade reading growth was .942 (NWEA, 2011). Interim assessments may reveal analyzed data of students and their progress over time. By using correlation charts, identified students could be targeted earlier in the school year using fall and winter NWEA MAP Growth Reading 2-5 AR 2016 Test scores to predict performance on the end-of-year NWEA MAP Growth Reading 2-5 AR 2016 Test.

Data Analysis

To address each of the four hypotheses, a 2 x 3 mixed factorial analysis of variance (ANOVA) was conducted with a repeated measures on the last factor. Gender was used as the between-groups independent variable, and change over time was used as the within-subjects independent variable. The only dependent variable was reading achievement measured by scores from the 2018-2019 school year from the NWEA MAP Growth Reading 2-5 AR 2016 Test for sampling ELPA21 Beginning or Intermediate levels in third and fourth grades, respectively. An alpha level of .05 was set to test each null hypothesis.

Summary

Closing an achievement gap between groups of learners is a common goal among many educators and administrators. By supporting the fastest growing population of

learners, teachers can implement best practices to support ELs (United States Department of Education, 2017). Through designated and integrated English language instructional methods, teachers using best practices can develop successful readers (Ardasheva, 2010; Egan, 2014; Goldenberg, 2008; King, 2017; Loney, 2016). A focus on third-grade and fourth-grade learners will help students through the transition of learning to read to reading to learn (Chall & Jacobs, 2003; Hernandez, 2011; Musen, 2010; National School Boards Association, 2015; Sibanda & Baxen, 2018). In this study, the NWEA MAP Growth Reading 2-5 AR 2016 Test was used as instrumentation to determine reading achievement and gain a better understanding of the interaction between gender and change over time for ELs in third grade and fourth grade. In Chapter II, I included a review of the related literature with conclusions other researchers have drawn.

CHAPTER II

RELATED LITERATURE REVIEW

Educators and administrators strive to provide optimal learning experiences for every student through personalized instructional opportunities. According to the United States Department of Education (2017), ELs are the fastest-growing population in the nation. Therefore, to reach most students, teachers need to use best teaching practices, implement professional development training and strategies, and include a variety of learning resources. Teachers can engage learners to encourage students to be successful in academic achievements.

One theoretical framework describing the acquisition of a second language is Krashen's theory of second language acquisition, which will be referred to as Krashen's theory. Krashen (2002) determined and defined five main hypotheses to provide insight on successfully learning a new language. Acquisition-learning, monitor, natural order, input, and affective filter are the five main hypotheses in Krashen's theory with a sub-hypothesis of reading (Bilash, 2009; Krashen, 2002, 2018). All five main hypotheses explain the reasoning and rationale for incidences or processes during second language acquisition.

While ELs are educated in every grade level, upper elementary students are of specific importance for developmental reasons. Chall and Jacobs (2003), Hernandez (2011), Musen (2010), the National School Boards Association (2015), and Sibanda and

Baxen (2018) remarked that third grade was when students transition from learning to read to reading to learn. Second, according to the University of Arkansas-Office for Education Policy (2018), the low achieving readers in third grade typically consisted of students with free or reduced lunch status, Black and Hispanic students, and males. On the contrary, King (2017) noted that students who read on grade level by the end of third grade experienced more academic success later in education. Additionally, Buchsbaum (2013) determined that at-risk, fifth-grade EL students would not reach on-grade level reading skills by high school graduation based on their trajectory rates. Therefore, third- and fourth-grade students need teachers with instructional strategies and best practices in place to combat low reading achievement.

By focusing on ELs, particularly in third and fourth grades, most students can be served and supported with equity. Ardasheva (2010) focused on the academic achievement of ELs and found two positive contributors to reading achievement consisted of metacognitive strategies and motivation by suggesting that motivation was linked to strategy use and higher reading proficiency. The affective filter hypothesis in Krashen's theory suggested that language acquisition was influenced by factors such as anxiety, motivation, and fear (Krashen, 1981, 1982, 2002). Therefore, a lack of motivation leads to lower reading achievement because of the adverse effects on self-esteem and academics. Ardasheva (2010) and Krashen (1981, 1982, 2002) supported the notion that external factors involving cognitive, social, and emotional influences attributed to reading success.

In addition to external factors, students also need interventions to target and address necessary language acquisition skills. King (2017) claimed that students with an

EL instructional pull-out intervention that supported reading instruction had significantly higher reading achievement levels. However, Hernandez (2011) warned that interventions were not as effective after third grade. When students can be supported with additional pull-out interventions, reading achievement scores might reveal higher growth and proficiency by third grade. With the right target areas identified, implemented interventions addressing language acquisition skills could help increase reading achievement levels.

In this chapter, I provided a review of the literature on second language acquisition as outlined by Krashen's theory. Additionally, I included a legal and historical overview of second language acquisition. Next, a review of the literature regarding reading achievement is addressed to understand the learning process, styles, external influences, grade level development, gender influences, and a comparison of native and EL learners. Finally, the review of the literature contains research about professional development for EL teachers, such as setting up the learning environment and strategies for interventions, and describes the use of standardized assessment scores reviewed to determine discrepancies between ELPA21 Beginning and ELPA21 Intermediate students in third and fourth grades.

Theoretical Framework: Krashen's Theory

Theoretical frameworks support research studies by explaining or predicting occurrences. One theoretical framework describing the acquisition of a second language is Krashen's theory (Krashen, 1981, 1982, 2002). Krashen's theory of second language acquisition involves five main hypotheses with a sub-hypothesis and has been widely accepted since the 1980s (Krashen, 2002, 2018). The main hypotheses of the Krashen's

theory provide insight into meaningful opportunities for students to learn a new language successfully. The hypotheses contribute to the theory and explain the reasoning and rationale for incidences or processes during second language acquisition.

Krashen's theory is comprised of five main hypotheses and one sub-hypothesis that support the processes of second language acquisition. According to Krashen (1981, 1982, 2002, 2018), all hypotheses in Krashen's theory do not have an order of importance. One hypothesis is termed the *acquisition-learning hypothesis* because of the combination of two separate systems necessary for learning a second language. The first system includes the acquisition component which requires the subconscious and more subjective process of engaging in meaningful interactions and communication with other individuals. The other system focuses on the learning component which is the conscious and objective knowledge of the mechanics of formal language. Second, the monitor hypothesis describes the influence of learning on the acquisition of the second language. In a school setting, the learning is monitored by a teacher through planning, editing, and correcting the language. Next, the natural order hypothesis suggests that a natural and predictable order exists for acquiring a new language and could be different compared to the sequence of learning the first language. Because all learners of a second language tend to learn in the same predictable way, teachers can focus on specific steps in helping their students learn the new language (Krashen, 1981, 1982, 2002).

Additionally, the input hypothesis describes how learners acquire a second language by reaching one step beyond the learners' current linguistic capability. If messages are received, understood, and comprehended, the learner would then demonstrate language acquisition by speaking in the comprehensible manner. Although

the input hypothesis was a single part of the theory, this hypothesis has come to represent the whole of the theory. The input hypothesis has also been called the *comprehensible input hypothesis* and the *comprehension hypothesis*. The next hypothesis, called the *affective filter,* indicates that variables such as motivation, self-confidence, and anxiety play a role in either preventing or allowing comprehensible language acquisition (Krashen, 1981, 1982, 2002). For example, for Krashen (2002), anxiety or boredom could contribute negatively to the acquisition of a second language. The *reading hypothesis* is a sub-hypothesis of the input or comprehension hypothesis (Krashen, 2018). The sub-hypothesis focuses on reading because, as Bilash (2009) noted, the more students read, the higher vocabulary they will acquire, which in turn will lead to a more advanced academic language proficiency. Krashen (1982) suggested that students gain vocabulary simultaneously with comprehensible input, and one of the ways this input is achieved is through reading. Therefore, teachers can involve reading opportunities in the classroom by providing real-life experiences, positive learning environments, direct and explicit instruction, and meaningful teacher-student, student-teacher, and student-student interactions. These main hypotheses offer one perspective of the learning processes involved in second language acquisition to support ELs.

Krashen's theory includes five main hypotheses and one sub-hypothesis that play essential roles in second language acquisition. During instructional time, educators teach using explicit language skills using four components: listening, speaking, reading, and writing. Reading is a foundational skill that students may use to learn all subjects and to grow as lifelong learners. The purpose of this study was to determine the reading

achievement of male and female EL students by ELPA21 beginning or intermediate level and grade level in a school district in Northwest Arkansas.

Legal and Historical Overview

Over the past century, congressional leaders determined that basic laws should be enacted to protect people's fundamental rights established in the United States Constitution. For programs receiving federal funds, members of Congress passed Title VI of the Civil Rights Act of 1964 that prohibited discrimination based on race, color, or national origin (United States Department of Justice, 2018). Although the original focus of the law was to aid in race relations promoted by advocates of the civil rights movement such as Martin Luther King, Jr., the ramifications of the civil rights law reached further into the educational opportunities of many ethnic groups. President Lyndon Johnson signed the Act of 1964 (Hakuta, 2015). In March of 1965, President Lyndon Johnson stated, "Of course people cannot contribute to the nation if they cannot read or write …. So we want to open the gates to opportunity" (Johnson, 1966, p. 286). The Civil Rights Act of 1964 was written to protect students' rights against discrimination. However, the effects of the Act would be influential in developing the educational rights of students learning English in the United States.

In the following years, other Acts aided students in learning English as well. The Elementary and Secondary Education Act of 1965 allotted money for disadvantaged schools, which indirectly included many ELs who lived in poverty (Hakuta, 2015). In 1968, the Bilingual Education Act, also known as Title VII of the Elementary and Secondary Education Amendments of 1967, directly added more opportunities for protecting ELs. The Bilingual Education Act renamed *limited English proficiency*

students to *English learners* or *ELs*. Additionally, The Bilingual Education Act promoted the development of academic programs that would help students with limited English-speaking abilities and expanded the need for multilingual teachers to help teach students learn English. The Bilingual Education Act prompted governing officials to regulate federal funding and ensure the money was spent on students to supplement and not supplant local money (Hakuta, 2015). The Bilingual Education Act ensured that ELs and their education were valued and that resources were not used in other school needs. Because of these Acts, the government continued to define what fair and equitable educational opportunities looked like for all students.

By 1974, the *Kinny Lau v. Nichols* ruling shaped the model for protecting ELs and their rights in education. Bon (2019) described how the United States Supreme Court ruling affirmed the Department of Education memorandum from 1970. The Court stated that school district administrators were responsible for taking steps to help limited English proficiency students overcome language barriers and participate in educational programs. By promoting academic achievement and using federal funding to correct linguistic deficits, equal educational opportunities were provided for students. To guide educators in complying with the new federal ruling, the Court established the Lau Remedies. Cardenas (1976) explained the importance of these remedies. Four phases of the compliance plan included identification, student language assessment, data analysis regarding achievement, and educational programs offered at the elementary and secondary levels (Cardenas, 1976). Through clarification and explanation of the *Lau v. Nichols* ruling accompanied by the Lau Remedies, teachers and administrators were able to apply the interpretation to school policies to service ELs toward equitable academic

achievement. Collectively, acts and rulings from the mid-1960s to the mid-1970s affected schools across the United States and changed the outlook of education for all.

With historical developments and political shifts, policies also changed in the United States. In the 1980s, President Ronald Reagan encouraged an English-only education in schools and opposed bilingual education. The decision to withdraw the bilingual-education regulations from former President Jimmy Carter's administration led to the declaration of English as the official language in several states (Jost, 2009). The decision to educate in English and not bilingually affected various schools with large populations of ELs. Although the 1960s and 1970s were influential in the shaping of EL education, the 1980s shifted with politicians and different viewpoints.

Considering political shifts, progress toward academic achievement for ELs was taking place. Both President Ronald Reagan and President George Herbert Walker Bush pushed for standards-based education in the 1980s (Kuehl, 2012) while Arkansas Governor Bill Clinton was Chair of the Educational Committee of the National Governors' Association. In the 1990s, President Bill Clinton then continued the educational endeavors by signing the Improving America's Schools Act of 1994 to persist in standards-based education. With the mantra, *all students can learn*, students with underprivileged backgrounds were integrated into classrooms of smaller sizes and mixed ethnic groups to develop their academic potentials (Hakuta, 2015). Because President Bill Clinton worked on addressing educational issues as governor and president, consistency in educational standards for ELs supported nondiscriminatory acts and policies. Therefore, progress toward equitable education for all students continued to persist throughout the 1980s and 1990s.

Another political shift took place in the early 2000s, which affected education. President George W. Bush, son of President George Herbert Walker Bush, was elected as president in 2001. Dee et al. (2010) stated that one of the first actions President George W. Bush performed as president was to sign the No Child Left Behind Act of 2001 to designate Title III funds to students with limited English proficiency. The No Child Left Behind Act included tracking adequate yearly progress in reading and mathematics. Also, Title I funds supported the inclusion of limited English proficiency students. Limited English proficiency students were also assessed and provided reasonable accommodations. Title III funds were used to create standards and objectives in speaking, reading, writing, and listening to align with student academic achievement. While funding came from Title I and Title III, both addressed student achievement for limited English proficiency students (Dee et al., 2010; Hakuta, 2015). With funding from two sources and policies enforcing regulations, students' rights were highlighted, ensuring inclusion and English language proficiency standards. Progress in protecting EL student achievement rights continued throughout the early 2000s as well.

As the 2000s continued, changes to the laws protecting ELs occurred as well. According to the United States Department of Education (2016), President Barack Obama signed into effect the Every Student Succeeds Act on December 10, 2015. The United States Department of Education noted that the Every Student Succeeds Act or ESSA was active after the 2016-2017 school year and would replace the No Child Left Behind Act as well as the supplement not supplant provision. Funds from Title II could be used to help ELs through ESSA. Funding could also be used to help subgroups such as new arrivals, long-term ELs, and ELs with special needs (United States Department of

Education, 2016). President Donald Trump amended some of the ESSA rules and regulations and in 2019 changed a year-to-year comparison of the subgroup of ELs to a trend analysis of 3 years (United States Department of Education, 2019). The change was made to stabilize the compound rate despite assessment changes that might occur within state authority. By equalizing state compound rates over 3 years, ELs benefit because of the English language levels and progress over time.

Historically, in the state of Arkansas, migrant students new to a school district were assessed to appropriately place and serve students in areas of need. The EL population in Arkansas doubled from 2005 to 2019, with a majority of those ELs living in Northwest Arkansas (University of Arkansas-Office for Education Policy, 2019). The University of Arkansas-Office for Education Policy (2019) indicated that students who were new to a school district in Arkansas must complete a home language survey. The survey asks the language the student first spoke, the language currently spoken, and the languages spoken in the child's home. If any answer given is other than English, an initial English proficiency assessment is administered to the student. Services for English language development are given to students who do not score at the proficiency level. However, parents do have the right to refuse services. Regardless, all identified students are assessed in reading, writing, speaking, and listening using the standardized ELPA21 test. Once students meet or exceed the proficiency levels in all four domains of the assessment, they exit the program and are monitored for 2 years (University of Arkansas-Office for Education Policy, 2019). Because every school district in Arkansas assesses incoming students, accurate and up-to-date records are kept. Administrators and teachers

place and service students according to individual needs to ensure that English language development services, as well as required standardized testing, are provided.

In 2017, Governor Asa Hutchinson and Commissioner Johnny Key worked with the Arkansas Department of Education and educators to encourage growth in reading achievement. The Reading Initiative for Student Excellence (R.I.S.E.) established a culture of reading, promoted collaboration with community partners as well as higher learning institutes, and provided teachers with professional development at schools using Title I funds (Arkansas Department of Education, 2017). The R.I.S.E. Initiative helps ELs with language supports in class and on assessments as well as provides meaningful differentiation in instruction. Teachers are also supported through continued professional development.

Reading Achievement

Historical Overview in Arkansas

Some groups of students have consistently struggled in reading achievement, including students who struggle to learn English as a second or non-native language. For example, the University of Arkansas-Office for Education Policy (2018) noted that Hispanic and other ethnic groups are among the low achieving readers in third grade. Chall and Jacobs (2003), Hernandez (2011), Musen (2010), the National School Boards Association (2015), and Sibanda and Baxen (2018) agreed that graduation rates were affected negatively by low reading scores from third grade. Graduation rates for ELs who were not proficient readers in third grade lagged far behind those for native language students with the same reading skills (Hernandez, 2011). Only about 11% of the low achieving readers in third grade reached a proficient reading level by high school

(University of Arkansas-Office for Education Policy, 2018). Likewise, Buchsbaum (2013) studied the trajectory rate of non-native language fifth-grade EL students and determined that the students would not reach on-grade level reading skills by high school graduation. Therefore, struggling in reading achievement in Grades 3-5 affects the rest of students' academic years in all subject areas. By identifying ELs as struggling readers, teachers and administrators can plan interventions according to best practices to assist in closing the achievement gap between non-native and native language students.

Historically, in the state of Arkansas, funding has been allotted to professional development to train teachers in areas of need. To combat external influences such as the effects of poverty and learning English as a second language, state programs targeted low achieving third-grade readers to equip them with a literacy foundation necessary for future success in academics (University of Arkansas-Office for Education Policy, 2018). Because such a small percentage of struggling students reach proficient reading levels by high school, low achieving third-grade students are targeted so that students may make significant academic gains from highly qualified and trained teachers. By identifying struggling students in reading achievement, teachers and administrators in school districts across the state can benefit from understanding the reading data collected from ELs to effectively respond to these students' needs.

Currently, funds have been allotted to develop teachers in the science of reading professionally. The state administrators aligned professional development for teachers to update certification to include Science of Reading. According to the Arkansas Department of Education (2018), the reading initiative focused on new instruction with the intent to increase reading achievement in the state. Three goals of the reading

initiative included strengthening instruction, collaborating with the community, and building a culture of reading (Arkansas Department of Education, 2018). All teachers were trained through this reading initiative because every educator teaches some form of reading across all curricula. Because reading is a foundational skill, teachers continue to learn about the science of reading throughout the state to grow and understand how students developmentally learn to read.

Learner Process

Read-aloud strategies are associated with improved reading skills and academic achievement. Besides being an enjoyable and positive experience, read-alouds enhance oral language through vocabulary exposure and grammatical structures (Lennox, 2013). Correlated to Krashen's acquisition-learning hypothesis, students engaged in read-alouds are exposed to vocabulary terms embedded in the literature through the author's use of grammatical structures formally written in multiple ways (Krashen, 2002). Krashen (2018) added that read-alouds are the basis for the first stage in the conduit hypothesis, which is a hypothesis for both first and second language acquisition and not one of the main hypotheses in Krashen's theory of second language acquisition. Read-alouds provide academic literacy competence and knowledge for the next steps. Linguistic competence is developed through hearing stories read aloud and includes vocabulary, grammar, and text structure (Hirsch, 2003; Krashen, 2018). Read-alouds stir up interests in books leading to the second step of the conduit hypothesis which is *self-selected recreational reading*. Read-alouds also provide a basis for academic linguistic competence and background information needed in the third step called *narrow academic reading* (Krashen, 2018). The read-aloud experience promotes engaging conversations,

language expansion, and the growth of concept knowledge. One important foundation and instructional strategy to foster reading achievement includes read-alouds.

Interactive read-alouds provide meaningful instruction to promote reading achievement. Lennox (2013) stated that interactive read-alouds improve students' understanding of vocabulary and word meanings. Furthermore, interactive read-alouds also increase the volume of words in students' vocabularies by encouraging participation (Lennox, 2013). As quality vocabulary is added and incorporated into students' understanding, students can include and use new vocabulary words in their repertoires, which aligns with the sub-hypothesis called the reading hypothesis (Krashen, 2002, 2018). When highly qualified teachers use effective strategies during interactive read-alouds, students are encouraged to search for meanings of words to increase the depth of understanding. By increasing vocabulary, interactive read-alouds promote reading achievement.

Learning Styles

Learning occurs using a variety of styles of instruction and strategies. Through differentiated instruction, McKeachie (1995), along with Tomlinson and Dockterman (2002), suggested that teachers can accommodate the needs of students with unique learning styles (auditory, visual, and kinesthetic) by making alterations to the learning environment. Teachers could also modify lessons to include moving, writing, drawing, singing, listening, and speaking to differentiate instruction and meet the needs of various students with different learning styles (Tomlinson, 1999). These techniques align well with the planning component of the monitor hypothesis of Krashen's theory as teachers plan and edit instruction to provide feedback as they correct the language (Krashen, 1981,

1982, 2002). By connecting learning styles, intelligence, and interests to classroom lessons or topics, students more readily adapt to the learning process, which promotes academic achievement (McKeachie, 1995; Tomlinson, 2005). After examining instructional methods used by teachers in reading, a comparison could be drawn to the scores of elementary students to discover best practices (Gilbert, 2011). Therefore, successful methods promote academic achievement, and one way to demonstrate academic performance is through students' test scores. When teachers respond to the individual needs of students by manipulation of instruction and strategies, optimal learning can promote academic achievement.

Cognitive, Social, and Emotional Influences

Language and literacy skills develop before children learn to read. Rosewater and Meyers (2016) reported that both the regulation of emotions and the controlling of behaviors are skills that develop as cognitive abilities of children mature. Therefore, a powerful connection between social and emotional development combined with cognitive skills in literacy are crucial components to promote success in reading proficiency in the early grades. As social and emotional skills develop through interactions, cognitive abilities also increase. However, social and emotional interactions that are negative can affect children's cognitive and language acquisition in a negative way. If the interactions are positive, a more favorable outcome will occur (Rosewater & Meyers, 2016). Krashen (1981, 1982, 2002) addressed these types of negative and positive influences in the affective filter hypothesis of Krashen's theory as students develop their motivations, self-confidence, and anxieties about learning from their social environments. When students come to school with negative social and emotional experiences, educators can sometimes

counteract these negative experiences by providing enriching environments to teach necessary skills before cognitively engaging students. The three influences of cognitive, social, and emotional development all work together in children from a young age to provide a foundational basis for communication leading to the academic skills necessary for reading and achievements in school.

A link exists between cognitive, social, and emotional influences and affects students' learning. McLanahan (2017) suggested that poor students and students from different ethnic backgrounds benefited the most from social-emotional learning interventions because of the lower levels of skills attained, particularly in the skills associated with reading. Ethnicity, backgrounds, ages, and experiences affect and guide social emotional learning. One essential social emotional skill for ethnic students is bicultural competence. By attaining social and emotional skill sets, ethnic minorities, whose language skills in English are low, may cognitively improve in their abilities to code-switch between cultural styles for optimal communication (McLanahan, 2017). Social-emotional learning aligns well with the affective filter hypothesis of Krashen's theory as encouraging feedback from teachers creates optimistic learning environments and consequently allows students to have positive attitudes towards reading (Krashen, 1981, 1982, 2002). Social-emotional learning increases students' abilities to integrate thinking, emotions, and behavior as students thrive in a safe and positive environment promoting successful outcomes in school and life. When students have positive social and emotional experiences in school, they can flourish cognitively to attain achievements and successes.

Grade Level

Students learn to read, which in turn allows for the refinement and extension of learning academic content. The complex process of learning to read requires a meticulous integration of various sub-skills (Dickinson, Golinkoff, & Hirsh-Pasek, 2010). The set of sub-skills is developed before school age. Infants understand that language and speech have a pattern of sounds (Best & Tyler, 2007; Dickinson et al., 2010; Kuhl, 2004). Until around 6 to 12 months of age, infants can hear all sounds from all languages regardless of their mother's native language. Afterward, infants begin only to hear the phonemes or sounds within their mother's native language (Kuhl, 2004). The infant's perception and production of sounds can be predictors of future reading abilities (Dickinson et al., 2010). While sub-skills are developed before school age, they are crucially essential to learning how to read in kindergarten or upon entering school. Kindergarten is the first grade for formal reading instruction; however, reading skills begin in the womb and continue as infants hear and distinguish different phonemes.

In the next few years of life and before kindergarten, children begin to learn skills that will eventually contribute to reading. Upon language acquisition, emergent literacy skills begin the developmental process that produces competencies in literacy prior to formal reading instruction (Whitehurst & Lonigan, 1998). Researchers Sénéchal, LeFevre, Smith-Chant, and Colton (2001) have defined emergent literacy skills as knowledge of letters and sounds, phonological awareness, print concepts, and vocabulary. Pinto, Bigozzi, and Tarchi (2016) agreed that emergent literacy skills are highly influential in the reading process. When students first enter kindergarten with emergent literacy skills, they will most likely learn to read sooner, better, and with more

understanding in comparison to others (Lonigan, Burgess, & Anthony, 2000; Storch & Whitehurst, 2002; Whitehurst & Lonigan, 1998). Hence, the emergent literacy skills present at the beginning of kindergarten are, therefore, the strongest predictor of students' reading abilities at the end of kindergarten (Burgess, 2011; Puranik, Lonigan, & Kim, 2011; Wapole, Chow, & Justice, 2004). While the research around emergent literacy skills is typical for most students entering kindergarten, some students who are new to the country will possibly begin schooling at different grade levels according to age. Therefore, upon the first year of entering school, students with emergent literacy skills will begin to develop formal reading abilities.

Other sub-skills in reading develop in the early stages of learning to read. After emergent literacy skills are strongly present, decoding is the next level of development in reading (National Reading Panel, 2000). When translating the printed language into a phonetic code, readers use the decoding strategy when less-familiar words are encountered (National Reading Panel, 2000). Once the decoding stage is mastered, students strive towards fluency as speed and accuracy develop (National Reading Panel, 2000; Pikulski & Chard, 2005). Decoding and fluency typically develop in the first three years of formal reading instruction (Chall & Jacobs, 2003). Usually, the first 3 years of formal reading instruction occur in kindergarten, first grade, and second grade for students. Regardless of grade level, all students must still acquire and master emergent literacy skills, decoding, and fluency for about 3 years before transitioning to higher reading skills.

A pivotal year in reading occurs in third grade. After the first 3 years of formal reading instruction, a shift to inferring and comprehension occurs in which students

understand and think about what is being read (Chall & Jacobs, 2003; National Reading Panel, 2000). Chall and Jacobs (2003), Hernandez (2011), Musen (2010), the National School Boards Association (2015), and Sibanda and Baxen (2018) commented that third grade was when students transition from learning to read and reading to learn. Consequently, Hernandez (2011), and Snow, Burns, and Griffin (1998) found that about one-fourth of low or below basic achieving third-grade readers dropped out or failed to graduate high school on time. Robb (2011) adds that learning to read and reading to learn happen simultaneously and build continually from preschool throughout middle school. Bast and Reitsma (1998) along with Foster and Miller (2007) agreed that reading delays in early elementary school compound into more significant problems in secondary school. Musen (2010) stated that reading instruction in the early years is essential to establish a foundation for continual success in later years. Students generally learn finite skills before third grade such as print concepts, phonemic awareness, and phonics. However, comprehension skills keep developing over a lifetime (Stahl, 2011). Musen (2010) suggested that by third grade, if students have not mastered reading, then the shift from learning to read to reading to learn will be difficult as texts become more complicated. Hirsch (2003) added that there is a "fourth grade slump" that occurs between third and fourth grade when students struggle with reading comprehension, which is also during the transition into reading to learn. If students are struggling with reading in third grade, they will continually struggle with reading in all subjects for years to come. By focusing heavily on learning to read in the first 3 years of school and then transitioning to reading to learn around third grade, students have a higher chance of success in upper grades.

Gender

Students use different learning strategies and inevitably learn differently from one another. Callan et al. (2016) defined learning strategies as cognitive and control strategies such as memorization, elaboration, understanding, remembering, and summarizing. All learning strategies contribute to the organizational process of new information in the brain. Catalán (2003) contended that genders perceived information differently and concluded that males and females learn and use strategies differently. Genders organize new information differently from one another in the brain. Because information is organized differently for males and females, learning strategies are accessed and used in various ways as well.

Males and females access related information in their brains in different ways, affecting how each gender uses learning strategies. In the United States, Bembenutty (2006) and Tang and Neber (2008) concluded that females tended to use more of a variety of different learning strategies. Regarding gender and ELs, Callan et al. (2016) also stated that EL females were significantly more likely to use learning strategies in comparison to EL males. Likewise, females use learning strategies more often than males (Bembenuttey, 2006; Tang & Neber, 2008). Learning strategies are heavily correlated with reading achievement. Therefore, under-achieving EL males could benefit from additional training and practice using and applying a variety of learning strategies.

Teachers may also help close potential achievement gaps between males and females by understanding which strategies genders typically access. Catalán (2003) noted that females used a significantly higher amount of vocabulary strategies, and males use visual strategies. Because vocabulary contributes to reading achievement, an achievement

gap could occur between males and females. Therefore, males could benefit from more attention from educators in learning strategies with vocabulary. Teachers could also provide more visual representations for male learners. To successfully achieve, various learning strategies must be provided by teachers for both genders to access and apply strategies.

Reading interest between males and females tends to differ from one another. Gambrell and Hunter (2000) suggested that males generally gravitate toward genres, including humor, horror, fantasy, science fiction, or informational texts, and females tend to choose from a wide variety of genres. Gambrell and Hunter, as well as Dutro (2003), admitted that about half of the books chosen by males are about jokes, comics, hobbies, or informational texts. Males are less likely to read books with female protagonists, whereas females are just as likely to choose books with male or female protagonists (Gambrell & Hunter, 2000). As males mature and age, their selection of various genres tends to decrease while females tend to increase genre selections (Dutro, 2003; Gambrell & Hunter, 2000). Gambrell and Hunter (2000) added that males decrease in desire and time spent reading independently as they become adolescents. As genders tend to prefer different genres, teachers may help by introducing and encouraging males to try different types of genres. On the contrary, teachers might want to include more books in classroom libraries in male-preferred genres with male protagonists.

Natives Versus English Learners

When analyzing student growth on reading achievement, a common practice for administrators is to group all students and look at an entire grade level. According to Keller-Margulis, Clemens, Im, Kwok, and Booth (2012), the performance of ELs should

not be compared to native speakers in norm-referenced testing. Administrators are inclined to categorize data from ELs and non-ELs into the same category to look at overall growth. By considering groups of students by English proficiency as an alternative to grade-level grouping, educators can compare growth scores more accurately.

Another practice is to focus on small pieces of student achievement data rather than on trends over time. Students with low levels of proficiency in English tend to show fewer differences in growth each semester with higher growth rates across several years (Keller-Margulis et al., 2012). Growth rates from fall to spring testing tended to be higher for Grades 3 and 4, but in Grade 5, the growth rate was not as high (Keller-Margulis et al., 2012). Norm-referenced tests allow teachers and administrators to look at growth over the year or over a selection of years. Therefore, administrators and teachers can have a better understanding of how students are learning and applying English skills in various content areas.

Reading Achievement and English Learners

Learning Styles

Two types of English language development learning styles have been incorporated into ELs' daily schedules to show academic achievement and best practices. Carter (2017) stated that integrated English language development represents the language instruction and takes place in core content classes to support comprehension of the material for ELs. The other type of learning style is designated English language development, which refers to a protected block of time set aside each day solely for language instruction based upon the individual language level of ELs. Even though the

two types of learning styles are each a form of language instruction, integrated and designated English language development styles should be implemented daily into instruction for ELs. Because of the explicit instruction, designated English language development is critical to the academic achievement of ELs (Carter, 2017). When the two learning styles are incorporated into a daily schedule for ELs, achievement gaps may lessen. Also, academic support is provided through the integration of core content and direct instruction. Likewise, when both types of instruction are incorporated into EL students' daily schedules, teachers and administrators know and understand how to meet the needs of students while distinguishing between the differences in instruction.

One learning style is known as integrated English language development. According to Thomas and Collier (1997), English language programs integrated with the mainstream instructional program have the potential to be highly effective. Through meaningful interaction with native, English-speaking peers, an integrated supportive environment provides ELs with mainstream access. Academic achievement for ELs stems from integration with peers. Additionally, integrated English language instruction is successful when teachers and administrators collaborate. Thomas and Collier suggested that teachers need to structure class tasks to enhance the language acquisition process. Successful integration of ELs included supportive administrators who provided extensive planning time in the school schedule for team teaching to occur between professional learning communities. Furthermore, continuous staff development aimed to create well-trained teachers has been another essential strategy that supported the sociocultural environment for ELs. With careful planning and implementation by well-trained bilingual or EL school staff, achievement gaps may begin to close (Thomas & Collier, 1997).

Successful programs implemented in schools to support ELs work best when teachers and administrators are prepared to collaborate, make schedule accommodations, and grow through professional development. Through training and collaboration, effective integrated English programs support ELs to close achievement gaps.

Another learning style to support ELs is termed designated English language development. Teams of teachers collaborated about strategies and interventions to support ELs, which promoted English language acquisition while decreasing the achievement gap (Carter, 2017). Designated English language development is a class specifically designed for explicit instruction catering to students' levels and needs. When teachers are provided with training on various components of designated English language development instruction, they can apply effective instructional strategies. Therefore, ELs can be fully supported when direct and explicit instruction is partnered with integrated English strategies.

Levels of Learning in English

Students learning English may obtain skills for communication in and out of the school environment. While students acquire spoken English skills in school and experiences within their communities, several ELs still need to know how the English language works through direct, explicit instruction of academic language (Dutro & Helman, 2009). E.L. Achieve (2014) defined the English Levels as follows: the beginning level for ELs includes learning concrete words, and the intermediate level focuses more on past and future experiences. When educators can accommodate learners through explicit academic instruction, students will be able to combine both informal and formal experiences to enrich language development. By contributing to students' repertoire of

language skills, students' communication skills may readily improve throughout the developmental levels of learning English.

The experiences of ELs and background knowledge need to be accessed before educators begin teaching lessons. Herrera, Perez, and Escamilla (2010) suggested teaching vocabulary by tiers and relating new words to the lesson to make meaningful associations. Peregoy and Boyle (2008) agreed that one benefit would be leveling vocabulary according to EL levels. ELPA21 Beginning, which is also known as the beginning level, pairs actions with words to make meaning. ELPA21 Intermediate, which is at the intermediate level, works on verb conjugations and descriptive adjectives to expand vocabularies and understanding of words (Peregoy & Boyle, 2008). Some programs have been developed to assist educators in making accommodations for students at various levels of English development. For example, the Systematic English Language Development Instructional Units were designed for all levels by using backward design, aligned content with grade-level Common Core State Standards, and English Language Proficiency Standards. These language instructional units include grammatical forms, phonology, academic and social functions, rhythm and cadence, cultured contexts, syntax, vocabulary, and formal and informal discourse styles. Communication skills include nonverbal, oral, reading, and writing instruction and practice (E.L. Achieve, 2014). Turkan, Bicknell, and Croft (2012) advised educators that even though the development of vocabulary skills is essential for ELs to make meaning, teachers should continue to reinforce decoding skills, reading comprehension skills, and metalinguistic strategies. Educators can model think-alouds to demonstrate knowledge and understanding of how language works to communicate metalinguistic skills to ELs

(Turkan et al., 2012). While vocabulary acquisition is a primary focus for initial learners, educators can continue teaching a myriad of developmental skills to students regardless of skill level. When a comprehensive, well-rounded curriculum is paired with differentiated instructional strategies, ELs can be fully supported to develop language skills to enhance communication and close the achievement gap.

Cognitive, Social, and Emotional Influences

Brain development of humans begins in the womb, with the hearing being the first sense that develops. The brain learns to read through processors (Arkansas Department of Education, 2018). From the age of 6 months, babies continued to develop hearing through orthographic mapping of the brain (Best & Tyler, 2007). A brain study of age and perception of the phonological perception of non-native languages was conducted. Best and Tyler (2007) claimed that babies from age 6 to 12 months could hear all sounds from all languages. As children aged, the proficiency of hearing and learning different sounds decreased. The extensive brain research indicated how and when children developmentally learn phonological awareness in non-native languages. Orthographic mapping on the brain also increased phonological awareness (Best & Tyler, 2017). Therefore, as children develop communication skills and are programmed to become more aware of their native languages, the ability to learn a non-native language decreases. Studies on brain development and orthographic mapping have allowed a deeper understanding of EL students and how they learn non-native languages to develop hearing and phonological awareness.

Older learners of non-native languages differ from early childhood learners due to brain development. Best and Strange (1992) studied adult exposure to non-native

language phonemes and addressed the effects of learning a non-native language after the age of 12 and into adulthood. In contrast with childhood learning of a non-native language, the researchers determined that the ability to distinguish between non-native phonemes could be influenced by exposure to another language as a child. Best and Strange concluded that non-native language learners discriminated between phonological sounds. For example, a higher success rate of learning a sound occurred if a similar sound existed in the native language. If no sound or phoneme in the new language was similar to the native language, then the non-native sound might not be heard, let alone distinguished or repeated (Best & Strange, 1992). The process of learning non-native languages seemed to be more successful for people before the age of 12 years. Therefore, adult learners of non-native languages differ from children under the age of 12 in their success of learning a new language due to brain activity.

The academic achievement of students can be affected by additional factors such as cognitive, social, and emotional influences. Ardasheva (2010) focused on the academic performance of ELs. Two contributors to positive outcomes in reading achievement included metacognitive strategies and motivation (Ardasheva, 2010). Both contributors related to two hypotheses in Krashen's theory including the input hypothesis and the affective filter hypothesis. Ardasheva (2010) and Krashen (2002) supported the idea that reading achievement was determined and affected by external factors involving cognitive, social, and emotional influences. While teachers instruct ELs, keeping external influences in mind to improve the reading achievement of students is essential. Negative or positive influences can affect reading depending on the implementation of strategies coupled with motivational approaches used in the learning environment.

One helpful mindset that teachers can use to drive instruction includes metacognitive strategies. When teachers used metacognitive strategies to plan, organize, focus, and monitor the learning of ELs, strong correlations with reading achievement were evident among students (Ardasheva, 2010). After teachers modeled and instructed how to use these strategies, EL students using the strategies scored higher proficiency scores regardless of EL level. When students are aware of techniques, such as planning and organizing, the focus level can increase and cause higher proficiency scores when evaluated. The positive outcome involving metacognitive strategies is just one of the positive results.

Another positive outcome in creating higher proficiency in reading achievement includes motivation. Ardasheva (2010) suggested that motivation was linked to strategy use and higher reading proficiency. The affective filter hypothesis in Krashen's theory indicated that factors such as anxiety, motivation, and fear heavily influenced language acquisition. (Krashen, 2002). A lack of motivation leads to lower reading achievement because of the adverse effects on self-esteem and academics. However, when students have motivating environments, positive outcomes include reading achievement and closing the achievement gaps.

Additional influences on ELs include socioeconomic status, race, and gender. Schleeter (2017) focused on the differences between ELs and the degree reading achievement was affected by socioeconomic status, race, and gender. The author noted that as the poverty level decreased, reading achievement decreased as well, and explained that Hispanic students performed lower than Asian, African American, or Caucasian students who were recognized as ELs. Moreover, girls outperformed boys in reading

achievement in all statistical analyses (Schleeter, 2017). Hernandez (2011) stated that Hispanic students with low achieving reading scores were notably more likely not to graduate high school or on time. Teachers of ELs benefit from this information by focusing on instruction and interventions on groups of students within the EL population to further personalize instruction. By being aware of influential external circumstances that affect reading achievement, instructors can modify and adapt strategies to accommodate students identified in areas of concern such as socioeconomic status, race, and gender.

Regardless of socioeconomic status, reading achievement can still improve for ELs with some implementations in place. D'Angiulli, Siegel, and Maggi (2004) conducted studies on socioeconomic status and EL levels. The researchers found that ELs improved in reading achievement from kindergarten through fifth grade due to contributing factors in a literacy-intensive program noting, "The results suggest that the literacy-intensive program may have reduced the negative influence of SES on word-development" (p. 202). With more literacy-based instruction, trajectories of students seemingly progressed similarly through fifth grade. When instruction time was increased, struggling EL students gained valuable time to make gains in reading achievement. The literacy-intensive program, coupled with additional instruction time, could combat socioeconomic status limitations on reading achievement, which could even change anticipated trajectories.

On the contrary, external factors contribute to reading achievement. According to Schemo (2006), external and societal factors such as family, housing, peers, health, and the quality of the neighborhood contributed to students' achievement stating, "In reading,

which is more influenced by family background, Blacks and Latinos fall 3 years behind Whites" (p. 4). School administrators and teachers needed to accept extra responsibilities to help close the achievement gap when such extreme external factors affected students' learning. Schemo suggested partnering with community members to alleviate the burden on schools. When community members join to support the elimination of educational inequality, all students can benefit. Therefore, school district administrators might be assisted in the combat against external factors to fully support and serve all students' individual needs.

An essential variable when educating the whole child is to observe student growth and gains. Coley (2003) and Schemo (2006) agreed that regardless of observed achievement gaps, little evidence existed between ethnic groups or poverty levels. Instead, students were growing at the same rate as other subpopulations. The main difference was that students entered school with a different and lower skill level (Coley, 2003; Schemo, 2006). Even though students entered school at a disadvantage, the growth rate is about the same rate as other students. With students entering schools at different levels, the achievement gap might not lessen. Additional measures should be taken to provide interventions, use best practices, and provide training for teachers. By reaching out to community members, additional support could be provided to assist in students' achievement and growth.

Learning Environment

Some forms of instruction for ELs can be delivered in bilingual classrooms with teachers instructing in more than one language. Slavin and Cheung (2004) compared bilingual and English-only reading programs, and after conducting a longitudinal study,

claimed that more investigation was needed on the instructional practices of teachers. Potential methods were provided through professional development and included cooperative learning, classroom management, and metacognitive strategies (Slavin & Cheung, 2004). From professional development, teachers implemented instructional strategies to be used with ELs. As a result, learning environments were enhanced for ELs regardless of bilingual or English-only instruction.

The type of instruction used in a classroom can influence students' reading achievement. For example, Cheung and Slavin (2005) researched reading achievement among students ranging from kindergarten through sixth grade who had been in a reading program in comparison to those who had been reading a textbook. Even though the results were inconclusive, some reading programs exhibited academic gains in reading achievement for ELs. The authors urged administrators and reading teachers to focus on best practices and sensible policies. A program called Success for All demonstrated positive outcomes for reading achievement because of the emphasis on systematic phonics, cooperative learning, direct instruction, and work with comprehension skills (Cheung & Slavin, 2005). Similarly, Robinson (2018) observed that ELs responded best to intensive phonics-based programs that included direct instruction from the teachers. Two reading methods, phonics-based instruction and whole language learning, were compared among first-grade EL students. Robinson also examined direct teaching instruction versus indirect instruction. With appropriate teaching methods, ELs can experience achievements in reading despite linguistic backgrounds. Therefore, the type of instruction used when considering various learning styles in reading programs influence

reading achievement positively over time. Instructional strategies and practices used by teachers may influence the reading achievement of ELs.

Multiple reading programs were synthesized into one report to further study forms of instruction in bilingual classrooms in comparison to English-only instruction. Cheung and Slavin (2012) additionally included effective teaching approaches. The authors claimed that direct instructional interventions with professional development, coaching, and cooperative learning provided optimal outcomes for ELs. According to Cheung and Slavin, "Quality of instruction is more important than language of instruction" (p. 26). They noted that how teachers instruct is more critical than if the classroom had a bilingual or English-only environment. In conclusion, the learning styles of ELs are further supported by the progress in reading achievement resulting from professional development, coaching, and cooperative learning.

Professional Development for Teachers of English Learners

In schools across the United States, teachers participate in professional development to service the EL population. Loney (2016) focused research on ELs meeting adequate yearly progress in reading. In a Midwestern urban elementary school, ELs had not been meeting adequate yearly progress in reading. By targeting professional development for teachers of ELs in reading to enhance vocabulary, the author claimed that reading proficiency improved. The research conducted by Loney (2016) connected to the sub-hypothesis called the *reading hypothesis* in the theoretical framework in which Krashen's theory suggested that vocabulary increased reading achievement (Krashen, 2018). Therefore, by aligning professional development to train teachers in enhancing vocabulary, reading achievement would improve as well. Through professional

development opportunities, teachers have been able to implement strategies to help support and serve ELs.

Teachers and administrators in the state and nation use English Language Proficiency Standards to guide professional development. Initially, the No Child Left Behind Act of 2001 reserved Title III funds to be used to create standards and objectives in speaking, reading, writing, and listening in alignment with ELs' academic achievements (Dee et al., 2010). Arkansas implemented English Language Proficiency Standards in the 2012-2013 school year (Arkansas ELPA21 Scoring Interpretation Guide, 2017). Funding and the English Language Proficiency Standards have both directed professional development for teachers to implement best practices for ELs in classrooms. With the implementation of standards in the 2000s, administrators and teachers collaborated to understand EL students' needs to provide optimal academic achievement with equity.

Interventions

Some students leave the classroom for additional interventions to support learning. These pull-out interventions for ELs have been implemented by teachers to enhance reading achievement. King (2017) claimed that students who had an EL instructional pull-out intervention to support reading instruction further had a significantly higher reading achievement level than students who revoked the intervention. King also noted that students who read on grade level by the end of third grade experienced greater academic success later in education. However, Hernandez (2011) warned that interventions were not as effective after third grade. Because students were supported with additional pull-out interventions, reading achievement scores

revealed higher growth and proficiency by third grade. The instructional pull-out intervention revealed higher reading achievement levels for ELs in comparison to parents who denied the intervention for their students.

Interventions for ELs have been assessed for effectiveness, including a program called Reading Recovery. Egan (2014) concluded that Reading Recovery interventions were more beneficial for ELs. Part of the success for ELs was attributed to the individualized reading plan created for each student that addressed personalized needs (Egan, 2014). When students have individualized reading plans to address personalized needs, interventions can be more productive. By assessing and targeting areas in need of improvement, EL students received beneficial pull-out interventions through the Reading Recovery program.

Summary

Reading achievement on grade level for all students is an aspiration of nearly every student and educator. A pivotal year in reading occurs in third grade when students transition from learning to read to reading to learn (Chall & Jacobs, 2003; Hernandez, 2011; Musen, 2010; National School Boards Association, 2015; Sibanda & Baxen, 2018). However, about one-fourth of non-proficient third-grade readers dropped out or failed to graduate high school with their classes (Hernandez, 2011; Snow et al., 1998). To combat external factors such as racial minority, Arkansas state program funds are used to target low achieving third-grade readers to promote literacy foundational skills and growth for future successes in academics (University of Arkansas-Office for Education Policy, 2018). Administrators are challenged when determining which interim assessments will meet the students' needs for appropriate validity, reliability, and measurability to best

align with the curriculum. Unfortunately, little evidence exists to help district and state leaders decide which assessments are best aligned with the curriculum (Li, Marion, Perie, & Gong, 2010). Even though standardized testing measures reading achievement according to student scores, Popham (1999) cautioned educators to carefully evaluate test items to understand what skills are being measured. According to Stevens (2009), interim assessments are usually measured three times per school year. Computer adaptive interim assessments only display one item at a time. Because multiple-choice computer assessments can be electronically scored, results are typically available within a short period, such as 24 hours (Stevens, 2009). Educators and administrators need to know more about the type of assessment chosen because various assessment methods may affect students' scores. With an understanding of standardized test scores, teachers and administrators can best analyze scores to help students grow in areas of need.

As a nation, EL students' reading achievement scores are creating an achievement gap between other subgroups. For this reason, this study examined factors such as ELPA21 Beginning or Intermediate level and grade level to obtain information and discern differences in students' reading achievement scores. In Chapter III, I discussed the research design, sample, instrumentation, data collection procedures, analytical methods, and limitations.

CHAPTER III

METHODOLOGY

The review of literature indicated that language is acquired through a natural order according to Krashen's theory. While reading on grade level is a universal aspiration, a pivotal year in reading occurs typically in third grade from learning to read to reading to learn (Chall & Jacobs, 2003; Hernandez, 2011; Musen, 2010; National School Boards Association, 2015; Sibanda & Baxen, 2018). Unfortunately, one-fourth of below grade level third-grade readers dropped out or failed to graduate high school with their classes (Hernandez, 2011; Snow et al., 1998). As a nation, EL students' reading achievement scores are creating an achievement gap between other subgroups. Therefore, this study examined factors such as ELPA21 Beginning or Intermediate level and third- and fourth-grade level to obtain information about ELs and discover any potential differences in students' reading achievement scores.

Historically, several laws and policies have been implemented at the nation and state levels to ensure educational equity for ELs. Because of designated funding and policymakers, teachers can develop professionally to understand how to serve ELs best. Likewise, extensive brain research indicating how and when children developmentally learn phonological awareness in non-native languages has also helped teachers understand ELs (Best & Tyler, 2017). Teachers use integrated English language development in core content classes to support comprehension of the material for ELs as

well as designated English language development for explicit and direct language instruction for ELs (Carter, 2017). When ELs are supported through social and emotional learning environments, modifications and interventions from teachers, and funding from taxpayers, the achievement gap may close, and ELs can be successful in reading. Even though grade, gender, and ELPA21 level could affect the learning of students and reading achievement, teachers essentially need to understand how to personalize learning for each unique student based upon needs. In this chapter, I discussed the research design, sample, instrumentation, data collection procedures, analytical methods, and limitations.

Research Design

A quantitative, causal-comparative strategy was used for this study. According to Yockey (2018), a mixed factorial design was used because one independent variable was a between-groups factor, and the other independent variable was a repeated or within-subjects factor. The between-groups independent variable was gender, and the within-subjects independent variable was change over time with each student tested three times within a school year (fall, winter, and spring). For each of the four hypotheses, I used a 2 x 3 mixed factorial design with a repeated measures on the last factor to determine the effects by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 Test. For Hypotheses 1 and 3, scores from students at ELPA21 Beginning level in the third and fourth grades were used, respectively. For Hypotheses 2 and 4, scores from students at ELPA21 Intermediate level in the third and fourth grades were used, respectively. The only dependent variable for Hypotheses 1 through 4 was reading achievement measured by students' scores from

the 2018-2019 school year on the NWEA MAP Growth Reading 2-5 AR 2016 Test administered in the fall, winter, and spring.

Sample

The sample in this study included third- and fourth-grade EL students' scores from a school district in Northwest Arkansas. The population consisted of 389 students learning English as a non-native language. The students' scores were selected from two accessible populations, ELPA21 Beginning students and ELPA21 Intermediate students, and then stratified by grade level and gender. Regarding race, the school district had a student population that consisted of Hispanic, Marshallese, Pacific Islander, Asian, African American, and Caucasian students. Likewise, the primary races of the students in the sample population consisted of Hispanic, Marshallese, Pacific Islander, Asian, African American, and Caucasian students. The school district had grade-level configurations in the elementary schools consisting of kindergarten through fifth grade with comparable population sizes in each school. In each school within the school district, the teacher to student ratio was 1:14.

The selected sample of the ELPA21 Beginning group consisted of 189 scores from students: 100 (53%) were third-grade students, and 89 were fourth-grade students (47%). In the third-grade ELPA21 Beginning group of students, 50 of the 100 students were female (50%), and 50 were male (50%). In the fourth grade ELPA21 Beginning group of students, 44 of the 89 students were female (49%), and 45 were male (51%). The selected sample for the ELPA21 Intermediate group of students consisted of 200 scores from students: 100 (50%) were third-grade students, and 100 were fourth-grade students (50%). Within each grade level, approximately 50 of the 100 students were

female (50%), and 50 were male (50%). ELPA21 Beginning and Intermediate students received a daily English Language Development class according to students' ELPA21 Beginning or Intermediate levels in which trained teachers provided direct instruction for 30 to 45 minutes. The school district administrators also provided teachers with professional development on integrated language development strategies to use in classrooms across all content areas.

Instrumentation

The NWEA MAP Growth Reading 2-5 AR 2016 Test was the standardized assessment chosen for the research conducted. For the stratified sample, third- and fourth-grade ELs were categorized by the ELPA21 Reading Test level (ELPA21 Beginning or ELPA21 Intermediate) according to the 2018 test results. The third- and fourth-grade ELs completed all three interim tests of the NWEA MAP Growth Reading 2-5 AR 2016 Test in the fall, winter, and spring. Students' RIT scores from the NWEA MAP Growth Reading 2-5 AR 2016 Test fall, winter, and spring administrations of the 2018-2019 school year were used to determine reading achievement.

In the state of Arkansas, the ELPA21 is administered to students learning English. According to the Arkansas ELPA21 Scoring Interpretation Guide (2017), English Language Proficiency Standards were implemented in the 2012-2013 school year. The ELPA21 Test is an evidence-centered and designed summative assessment administered to ELs in kindergarten through 12th grades with a testing window from January-April. There are four domains, including listening, speaking, reading, and writing.

For the sampling of this study, the ELPA21 Reading Test was used to determine students' ELPA21 level (ELPA21 Beginning or ELPA21 Intermediate). The ELPA21

Reading Test assesses students on the ability to read and comprehend written English in comparison to grade-level expectations. Questions are technology-enhanced, open response, and multiple-choice on informational and literary text sets, sentence structures, and vocabulary (Arkansas ELPA21 Scoring Interpretation Guide, 2017). Students learning English are administered this test yearly until exiting the program with proficiency in English according to grade-level expectations. Grade-level expectations may include instruction, communication, and activities for kindergarten through 12th grade for students learning English.

Students are first classified as ELs according to a home language survey given to every parent of a student in Arkansas public schools. If parents mark any answer other than English on home language surveys, students are further tested and identified as ELs. All identified ELs take the ELPA21 in the spring of every school year until reaching proficiency levels. Once students test out of EL status, they are monitored for 2 years and categorized as fluent in English. From the ELPA21 Reading Test, the scale score and a level are released and reported to teachers, administrators, and parents of ELs to measure student progress while determining EL program eligibility (Arkansas ELPA21 Scoring Interpretation Guide, 2017). By measuring progress, reclassifying students, and providing accountability, the ELPA21 Reading Test standardizes students' scores as a means of comparison. By understanding the scoring system, the ELPA21 Reading Test can be used to distinguish a frame of reference determining when students fluently learn English.

A standardized test used to measure reading achievement for all public school students in the state of Arkansas as well as nationwide is the NWEA MAP Growth Reading 2-5 AR 2016 Test. The purpose of the NWEA MAP Growth Reading 2-5 AR

2016 Test is to measure reading growth over time, according to scaled scores. NWEA (2019) stated that in the title of the test, "2-5" references test administration to Grades 2 through 5, and the "2016" was the last year that the test was modified. In Arkansas, the NWEA MAP Growth Reading 2-5 AR 2016 Test is administered to all 2nd- through 10th-grade students in public schools. Test questions on the norm-referenced NWEA MAP Growth Reading 2-5 AR 2016 Test range in difficulty and are all multiple choice. Each question is scored on the Rasch Unit (RIT) scale. The student's achievement level is measured by the level of difficulty on questions correctly answered. Samples of scores from kindergarten through 11th-grade students from school districts in all the United States are the basis for the NWEA MAP Growth Reading 2-5 AR 2016 Test normed studies. This norm-referenced assessment is widely recognized across the United States to measure reading achievement not only over months but also by tracking students' data over the years (NWEA, 2013, 2019). The main difference between the NWEA MAP Growth Reading 2-5 AR 2016 Test in comparison to the ELPA21 Reading Test is that the NWEA MAP Growth Reading 2-5 AR 2016 Test has all multiple-choice questions and is administered to all students in public schools in Grades 2 to 10. Also, the ELPA21 Reading Test is administered only to ELs, and the NWEA MAP Growth Reading 2-5 AR 2016 Test is administered to all students.

The two tests allow administrators to evaluate reading comprehension through different aspects. According to Cain and Oakhill (2006), to accurately monitor and compare students' growth scores, standardized assessments evaluating reading comprehension are necessary. Regardless, different types of assessments, such as multiple choice, true or false, open-ended, and cloze tests, have positive and negative

aspects. While easily administered, multiple choice tests require only one correct answer from a group of choices. True or false tests can promote students to use inferencing skills to arrive at the correct answers. Open-ended questions are more difficult to score because of subjectivity and time; however, they provide insight into readers' comprehension of the questions (Cain & Oakhill, 2006). Educators and administrators can disaggregate data to track students' performance across various skills (Burch, 2010). While formative and summative assessments have a level of importance, educators must know how to interpret the data to provide the best responses for implementing instructional practices or interventions (Goren, 2010). For example, interim assessments may reveal analyzed data of students and their progress over time. Perie, Marion, and Gong (2009) agree that interim assessments can be used to evaluate students' knowledge and skills. The researchers elaborate to include that student scores might inform policymakers' decisions as well. Perie et al. indicated that summative assessments are administered once at the end of a semester or school year to evaluate students' growth or achievement of standards. By including the nationally-recognized, norm-referenced, multiple-choice assessment, another form of reading achievement data may be used to evaluate students' successes and growth. Educators can identify students' needs according to scores and results from assessment data.

All computerized NWEA MAP Growth Reading 2-5 AR 2016 Tests are nationally-recognized and norm-referenced, and subgroup populations' findings are reported. Buchsbaum (2013) and McCall, Hauser, Cronin, Kingsbury, and Houser (2006) investigated the rate of reading growth on the NWEA MAP Growth Reading 2-5 AR 2016 Test according to data of ethnic group and socioeconomic status. McCall et al.

(2006) also discovered achievement gaps that exist between ethnic groups, such as Hispanic students, in poverty with students losing growth over the summer. Consequently, Buchsbaum (2013) urged administrators to study growth scores across at-risk populations such as identified special education students, student groups according to socioeconomic status, and ELs. Ethnicity and socioeconomic status are two dominant areas of demographics significantly affecting reading achievement. By studying sub-group populations, researchers and administrators can see growth scores over time for various demographics to target students' specific needs to enhance reading achievement.

Data Collection Procedures

After gaining approval from the Institutional Review Board, school district administrators from the chosen school district were contacted to obtain specific data. A formal written request for the necessary data was submitted to the Research Review Committee of the selected school district for review. Upon receiving approval from the Research Review Committee, the Director of Accountability and Assessment at the chosen school district was contacted to obtain the necessary data. In May of 2020, the Director of Accountability and Assessment provided an Excel spreadsheet with the requested data including students' identification numbers for confidentiality, grade level, primary ethnicity, primary language, gender, English Language Proficiency Assessment for the 21st Century reading level as of 2018, and NWEA MAP Growth Reading 2-5 AR 2016 Test scores for the fall, winter, and spring for the school year of 2018-2019. Confidentiality was maintained by not recording names. Once results were determined, the spreadsheet was deleted to maintain strict confidentiality.

Analytical Methods

Four factorial ANOVAs were analyzed statistically with the use of the *IBM Statistical Packages for the Social Sciences (SPSS) Version 26*. To address each of the four hypotheses, a 2 x 3 factorial ANOVA was conducted using gender (male versus female) as the between-groups independent variable and change over time (fall, winter, and spring) as the within-subjects independent variable according to NWEA MAP Growth Reading 2-5 AR 2016 Test administrations. Reading achievement was measured by scale growth scores on the NWEA MAP Growth Reading 2-5 AR 2016 Test as the only dependent variable. The NWEA MAP Growth Reading 2-5 AR 2016 Test evaluates student readiness in reading according to norm references. Administered to students in 3rd through 10th grade three times each school year in the fall, winter, and spring, the NWEA MAP Growth Reading 2-5 AR 2016 Test scores ranged from 134 to 232, with a low score of 134 and a high score of 232 (NWEA, 2016). Reading achievement scores were collected from the 2018-2019 school year and stratified by grade level, ELPA21 Beginning or ELPA21 Intermediate level, and gender. Each group was composed of 50 males and 50 females except for the fourth grade ELPA21 Beginning group of students which consisted of 45 males and 44 females. Only scores from students who took all three interim tests throughout the entire school year of 2018-2019 were used in the data set.

Data collected for the four hypotheses were coded according to grade level, gender, and ELPA21 level. The following codes were used for each group: grade level (Third = 3, Fourth = 4), gender (Male = 0, Female = 1), and ELPA21 level (0 = ELPA21 Beginning level, 1 = ELPA21 Intermediate level). NWEA MAP Growth Reading 2-5 AR

2016 Test scores from fall, winter, and spring administrations of the test were used. The null hypotheses were tested using a two-tailed test with a .05 level of significance.

I used a 2 x 3 mixed factorial analysis of variance (ANOVA) with a repeated measures on the last factor to address each of the four hypotheses and to determine the effects by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 Test for ELPA21 levels (Beginning versus Intermediate) for students in two grade levels (third versus fourth grade) from a school district in Northwest Arkansas. Assumptions were checked, including independence of observations, outliers, and normal distributions, and homogeneity of variance (Leech, Barrett, & Morgan, 2015). I conducted Levene's test of equality of error variances for each of the four hypotheses to check for homogeneity. I investigated each factorial ANOVA for a statistically significant interaction between gender and change over time. If the interaction was not significant, then I individually evaluated the gender main effect and the change over time main effect.

Limitations

Several limitations existed in this study. First, the independent variables could not be manipulated; therefore, a causal-comparative study was used due to pre-existing conditions of data. Second, a limited number of participants' scores existed in the school district. Only one school district in the state was studied, and only the third- and fourth-grade students' scores in the district were included. Third, the ELPA21 was a standardized nationwide test used for ELs and was administered between January and April in grade bands. While elementary ELs were tested in the same grade band at the same time in 2018, the scores from the assessment were used for the following school

year of 2018-2019. Therefore, students might have advanced in English development between the ELPA21 administration and the three administrations of the NWEA MAP Growth Reading 2-5 AR 2016 Test. Fourth, every student received English Language Development classes with direct instruction from trained teachers. However, the students were placed in different levels according to a multitude of assessments based on listening, speaking, reading, and writing skills. For this study, only reading achievement was reviewed; however, students might have been placed in beginning, intermediate, or advanced English Language Development classes based on overall success collectively from the four domains of the language. Therefore, students received 30-45 minutes of direct and explicit English instruction at various levels. Also, differences could have existed in the fidelity of how each school's teachers implemented the types of instruction.

Summary

I stratified the data by grade, gender, and ELPA21 level to determine the effects of gender and change over time on reading achievement for EL students from a school district in Northwest Arkansas. The data were provided by the school district's Director of Accountability and excluded students who did not complete all three administrations of the NWEA MAP Growth Reading 2-5 AR 2016 Test. A mixed factorial ANOVA with a repeated measures on the last factor was used to analyze the NWEA MAP Growth Reading 2-5 AR 2016 Test data. In Chapter IV, I discussed the results of each hypothesis.

CHAPTER IV

RESULTS

The purpose of this study was to determine the effects by change over time between males versus females on reading achievement measured by the Reading 2-5 AR 2016 Test for ELPA21 Beginning and Intermediate third-grade and fourth-grade students from a school district in Northwest Arkansas. To address all hypotheses, four 2 x 3 mixed factorial ANOVAs were conducted using gender (male versus female) as the between-subjects factor and change over time (fall, winter, spring) as the within-subjects factor. Reading achievement was measured by scale growth points on the NWEA MAP Growth Reading 2-5 AR 2016 Test as the dependent variable. In this chapter, the results for all four hypotheses are presented and described.

Hypothesis 1

Hypothesis 1 stated that no significant difference will exist by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 Test for ELPA21 Beginning third-grade students from a school district in Northwest Arkansas. To test this hypothesis, a mixed factorial ANOVA was conducted. Before conducting the ANOVA, the data were screened for outliers and examined for the assumptions of independence of observations, normality, and homogeneity of variances. Table 1 displays the group means and standard deviations for

the ELPA21 Beginning third-grade students' reading achievement on the NWEA MAP Growth Reading 2-5 AR 2016 Test.

Table 1

Means, Standard Deviations, and n for ELPA21 Beginning Third-Grade Students' Reading Achievement on the NWEA MAP Growth Reading 2-5 AR 2016 Test as a Function of Gender and Change over Time

Time	Gender	*M*	*SD(SE)*	*N*
Fall	M	154.40	6.35	50
	F	156.84	6.06	50
	Total	155.62	6.30	100
Winter	M	157.44	8.19	50
	F	161.44	8.92	50
	Total	159.44	8.75	100
Spring	M	160.44	8.95	50
	F	165.78	11.32	50
	Total	163.11	10.50	100
Total	M	157.43	(1.02)	150
	F	161.35	(1.02)	150

The design of the study was such that no subject contributed scores in more than one group. An examination of the box and whisker plots for each set of achievement scores revealed no extreme outliers within the samples. To test the assumption of normality, I examined histograms and Shapiro-Wilk statistics for each group across the

set of scores. Results of these tests on the six groups indicated that the fall male group, $W(50) = 0.96$, $p = .129$, the winter female group, $W(50) = 0.98$, $p = .370$, and the spring female group, $W(50) = 0.97$, $p = .214$, were not significant. However, the fall female group, $W(50) = 0.89$, $p < .001$, the winter male group, $W(50) = 0.94$, $p = .014$, and the spring male group, $W(50) = 0.94$, $p = .015$, were significant and suggested possible violations of the assumption of normal distribution. Yet, due to the large sample size, histograms were used to provide a better test for normality. The histograms revealed significant positive skewness and kurtosis in the fall female group. Despite these violations of the assumption of normal distribution, analysis of data using ANOVA was deemed appropriate as ANOVA is considered robust to mild violations of the assumption (Leech et al., 2015). Additionally, the Box's M value of 3.36 was associated with a p value of .777, which was interpreted as not significant. Thus, the homogeneity of variances was not violated, and the assumption was met. Mauchly's test of sphericity was conducted to test for homogeneity of covariance, ($\chi 2 = 8.11$, $p = .017$). The assumption of sphericity was not met. Because this assumption was violated and the epsilon value was $\geq .75$, the decision was made to use the Huynh-Felt correction for the interpretation of the results (Leech et al., 2015). The results of the mixed factorial ANOVA with a repeated measure on the last factor are displayed in Table 2.

Table 2

Mixed Factorial ANOVA Results for ELPA21 Beginning Third-Grade Students' Reading Achievement on the NWEA MAP Growth Reading 2-5 AR 2016 Test

Source	*SS*	*df*	*MS*	*F*	*p*	*ES*
Between Groups						
Gender	385.47	1	385.47	7.40	.008	0.070
Error	5108.32	98	52.13			
Within Subjects						
Time	2805.38	1.91	1472.74	47.00	.000	0.324
Gender*Time	105.33	1.91	55.29	1.77	.176	0.018
Error	5849.29	186.68	31.33			

The results of the mixed factorial ANOVA revealed no significant interaction between gender and change over time, Huynh-Felt adjusted $F(1.91, 55.29) = 1.77$, $p = .176$, partial $\eta^2 = 0.018$. According to Cohen (1998), the effect size for the interaction is considered small. As a result, the null hypothesis for the interaction could not be rejected. Given that the interaction was not significant, the main effects were examined separately. The between-groups main effect for gender was significant, $F(1, 98) = 7.40$, $p = .008$, partial $\eta^2 = 0.070$, which is considered a medium effect size. Because the analysis revealed a statistically significant effect, the null hypothesis was rejected. The results regarding the within-subjects main effect for change over time were also significant, $F(1.91, 186.68) = 47.00$, $p < .001$, partial $\eta^2 = 0.324$, which is considered a very large effect size. Therefore, this null hypothesis was also rejected. Figure 1 shows the means

for reading achievement as a function of gender and change over time.

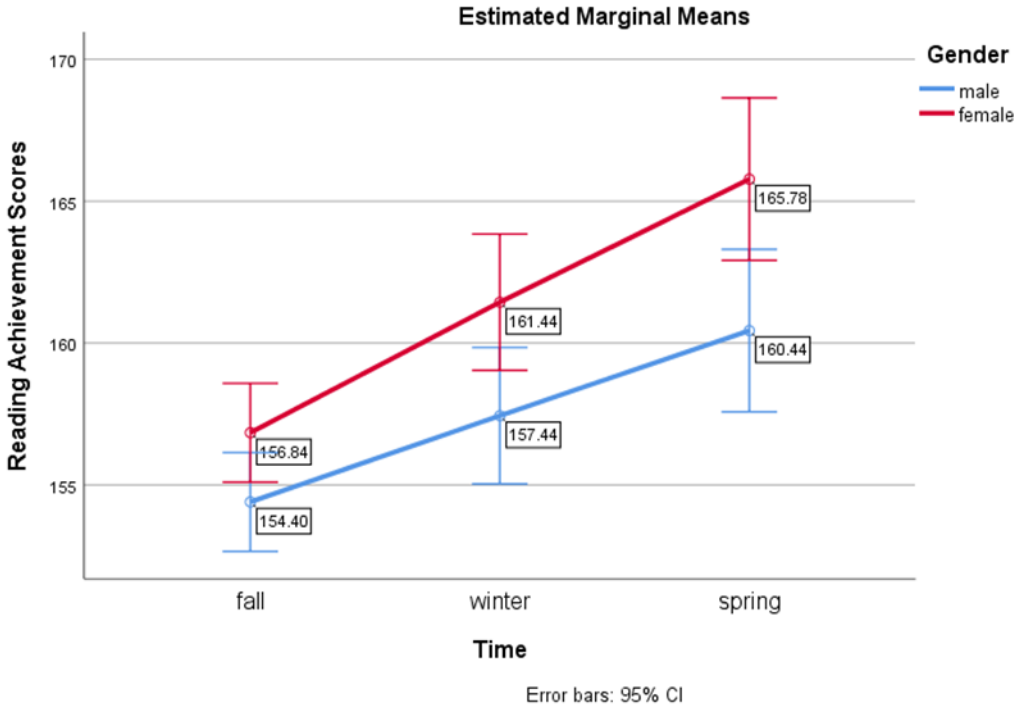

Figure 1. Means with error bars for ELPA21 Beginning third-grade students' reading achievement as a function of gender and change over time.

Because change over time included three test administrations, within-subjects' contrasts were performed. A significant linear contrast existed between fall and winter ($p < .001$, partial $\eta^2 = 0.230$) and between winter and spring ($p < .001$, partial $\eta^2 = 0.207$), both with a large effect size. Figure 1 reflects the significant difference in reading achievement between the means of the males ($M = 157.43$, $SE = 1.02$) and females ($M = 161.35$, $SE = 1.02$), regardless of change over time. Figure 1 also indicates that, regardless of gender, the third-grade ELPA21 Beginning level students increased significantly over the three test administrations, fall ($M = 155.62$, $SE = 0.62$), winter, (M

= 159.44, *SE* = 0.86), and spring (*M* = 163.11, *SE* = 1.02). However, although the mean differences between the females and the males increased over the three test administrations (fall = 2.44, winter = 4.00, spring = 5.34), the differences were not enough to establish a significant interaction effect.

Hypothesis 2

Hypothesis 2 stated that no significant difference will exist by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 Test for ELPA21 Intermediate third-grade students from a school district in Northwest Arkansas. To test this hypothesis, a mixed factorial ANOVA was conducted. Before conducting the ANOVA, the data were screened for outliers and examined for the assumptions of independence of observations, normality, and homogeneity of variances. Table 3 displays the group means and standard deviations for the ELPA21 Intermediate third-grade students' reading achievement on the NWEA MAP Growth Reading 2-5 AR 2016 Test.

Table 3

Means, Standard Deviations, and n for ELPA21 Intermediate Third-Grade Students' Reading Achievement on the NWEA MAP Growth Reading 2-5 AR 2016 Test as a Function of Gender and Change over Time

Time	Gender	*M*	*SD(SE)*	*N*
Fall	M	179.72	8.16	50
	F	176.62	8.84	50
	Total	178.17	8.61	100
Winter	M	181.70	9.04	50
	F	184.30	7.86	50
	Total	183.00	8.53	100
Spring	M	187.70	10.47	50
	F	186.76	7.04	50
	Total	187.23	8.89	100
Total	M	183.04	(1.06)	150
	F	182.56	(1.06)	150

The design of the study was such that no subject contributed scores in more than one group. An examination of the box and whisker plots for each set of achievement scores revealed no extreme outliers within the samples. To test the assumption of normality, I examined histograms and Shapiro-Wilk statistics for each group across the set of scores. Results of these tests on the six groups indicated that the fall male group, $W(50) = 0.97$, $p = .283$, the fall female group, $W(50) = 0.98$, $p = .440$, the winter male group, $W(50) = 0.98$, $p = .661$, the winter female group, $W(50) = 0.96$, $p = .060$, the

spring male group, $W(50) = 0.98$, $p = .700$, and the spring female group, $W(50) = 0.98$, $p = .680$, were not significant. Due to the large sample size, histograms were used to provide a better test for normality. The histograms revealed no significant skewness and no significant kurtosis for the third grade ELPA21 Intermediate level. Additionally, the Box's M value of 12.49 was associated with a p value of .060, which was interpreted as not significant. Thus, the homogeneity of variances was not violated, and the assumption was met. Mauchly's test of sphericity was conducted to test for homogeneity of covariance, ($\chi 2 = 0.001$, $p = 1.000$). The assumption of sphericity was met. The results of the mixed factorial ANOVA with a repeated measure on the last factor are displayed in Table 4.

Table 4

Mixed Factorial ANOVA Results for ELPA21 Intermediate Third-Grade Students' Reading Achievement on the NWEA MAP Growth Reading 2-5 AR 2016 Test

Source	*SS*	*df*	*MS*	*F*	*p*	*ES*
Between Groups						
Gender	17.28	1	17.28	0.10	.750	0.001
Error	16540.05	98	168.78			
Within Subjects						
Time	4110.18	2	2055.09	74.89	.000	0.433
Gender*Time	414.06	2	207.03	7.55	.001	0.071
Error	5378.43	196	27.44			

The mixed factorial ANOVA revealed the following. The between-groups main effect for gender was not significant, $F(1, 98) = 0.10$, $p = .750$, partial $\eta^2 = 0.001$, which is considered a very small effect size (Cohen, 1998). Because the analysis revealed no statistically significant main effect for gender, the null hypothesis was retained. The results regarding the within-subjects main effect for change over time were significant, $F(2, 196) = 74.89$, $p < .001$, partial $\eta^2 = 0.433$, which is considered a very large effect size. Therefore, the null hypothesis for this main effect was rejected. However, the results of the within-subjects main effect needed to be interpreted by the significant interaction effect between gender and change over time, $F(2, 196) = 7.55$, $p = .001$, partial $\eta^2 = 0.071$, which is considered a medium effect size. As a result, the null hypothesis for the interaction effect is rejected. Given that the interaction effect was significant, a simple main effects analysis was performed. Figure 2 shows the means for reading achievement as a function of gender and change over time.

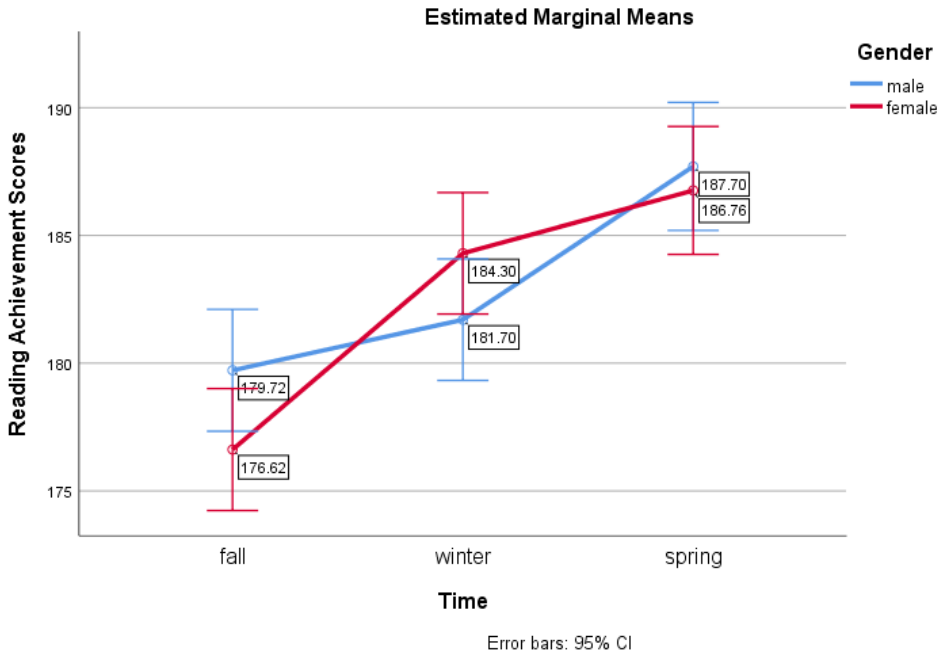

Figure 2. Means with error bars for ELPA21 Intermediate third-grade students' reading achievement as a function of gender and change over time.

Examining gender by each level of time revealed that no statistically significant result existed between the means of the males and females for the fall (p = .071), the winter (p = .128), or the spring (p = .599). However, as time progressed over the three periods, the mean differences between the males and females decreased (fall = 3.10, winter = 2.60, spring = 0.94). In addition, an investigation was made for time by each level of gender. The plot graph indicates a significant quadratic contrast between the males and females, $F(1, 98) = 12.94$, p = .001, partial $\eta^2 = 0.117$, which is a medium effect size. Therefore, the mean of the males was higher compared to females for the fall and spring but not for the winter. Moreover, for males, a significant difference existed from the winter to the spring, $p < .001$, from the fall to the spring, $p < .001$, but not from the fall to the winter, p = .062. For females, a significant difference existed between all periods: fall and winter ($p < .001$), winter and spring (p = .021), and fall and spring ($p <$

.001). Finally, females made their greatest gains between the fall and the winter, and males made their greatest gains between the winter and the spring.

Hypothesis 3

Hypothesis 3 stated that no significant difference will exist by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 Test for ELPA21 Beginning fourth-grade students from a school district in Northwest Arkansas. A mixed factorial ANOVA was conducted to test this hypothesis. Data were screened for outliers and examined for the assumptions of independence of observations, normality, and homogeneity of variances before conducting the ANOVA. Group means and standard deviations for the ELPA21 Beginning fourth-grade students' reading achievement on the NWEA MAP Growth Reading 2-5 AR 2016 Test are displayed in Table 5.

Table 5

Means, Standard Deviations, and n for ELPA21 Beginning Fourth-Grade Students' Reading Achievement on the NWEA MAP Growth Reading 2-5 AR 2016 Test as a Function of Gender and Change over Time

Time	Gender	*M*	*SD(SE)*	*N*
Fall	M	160.33	10.69	45
	F	160.50	10.53	44
	Total	160.42	10.55	89
Winter	M	164.47	11.82	45
	F	166.55	12.49	44
	Total	165.49	12.13	89
Spring	M	170.51	11.59	45
	F	172.50	12.43	44
	Total	171.49	11.99	89
Total	M	165.10	(1.58)	135
	F	166.52	(1.60)	132

No subject contributed scores in more than one group in this design. After close examination of the box and whisker plots for each set of achievement scores, no extreme outliers within the samples were revealed. To test the assumption of normality, I examined histograms and Shapiro-Wilk statistics for each group across the set of scores. Results of these tests on the six groups indicated that the fall male group, $W(45) = 0.96$, $p = .151$, the fall female group, $W(44) = 0.96$, $p = .082$, the winter female group, $W(44) = 0.98$, $p = .792$, the spring male group, $W(45) = 0.97$, $p = .323$, and the spring female

group, $W(44) = 0.98$, $p = .613$, were not significant. The winter male group, $W(45) = 0.86$, $p < .001$ was statistically significant and suggested possible violations of the assumption of normal distribution. Due to the large sample size, histograms were used to provide a better test for normality. For the winter male group, the histograms revealed positive skewness and a significant kurtosis of 3.53. ANOVA is considered robust to mild violations of the assumption despite these violations of the assumption of normal distribution (Leech et al., 2015). Therefore, the analysis of data using ANOVA was deemed appropriate. Additionally, the Box's *M* value of 4.38 was associated with a *p* value of .647, which was interpreted as not significant. Thus, the homogeneity of variances was not violated, and the assumption was met. Mauchly's test of sphericity was conducted to test for homogeneity of covariance, ($\chi 2 = 0.72$, $p = .697$), and the assumption of sphericity was met. The results of the mixed factorial ANOVA with a repeated measure on the last factor are displayed in Table 6.

Table 6

Mixed Factorial ANOVA Results for ELPA21 Beginning Fourth-Grade Students' Reading Achievement on the NWEA MAP Growth Reading 2-5 AR 2016 Test

Source	*SS*	*df*	*MS*	*F*	*p*	*ES*
Between Groups						
Gender	132.96	1	132.96	0.40	.532	0.005
Error	29318.19	87	336.99			
Within Subjects						
Time	5483.47	2	2741.73	81.09	.000	0.482
Gender*Time	51.80	2	25.90	0.77	.466	0.009
Error	5883.17	174	33.81			

The results of the mixed factorial ANOVA revealed no significant interaction between gender and change over time, $F(2, 174) = 0.77$, $p = .466$, partial $\eta^2 = 0.009$. According to Cohen (1998), the effect size for the interaction is considered small. As a result, the null hypothesis for the interaction could not be rejected. Given that the interaction was not significant, the main effects were examined separately. The between-groups main effect for gender was not significant, $F(1, 87) = 0.40$, $p = .532$, partial $\eta^2 = 0.005$, which is considered a small effect size. Because the analysis revealed no statistically significant main effect for gender, the null hypothesis was retained. The results regarding the within-subjects main effect for change over time were significant, $F(2, 174) = 81.09$, $p < .001$, partial $\eta^2 = 0.482$, which is considered a very large effect size. Therefore, the null hypothesis for this main effect was rejected. Figure 3 shows the

means for reading achievement as a function of gender and change over time for fourth-grade ELPA21 Beginning students.

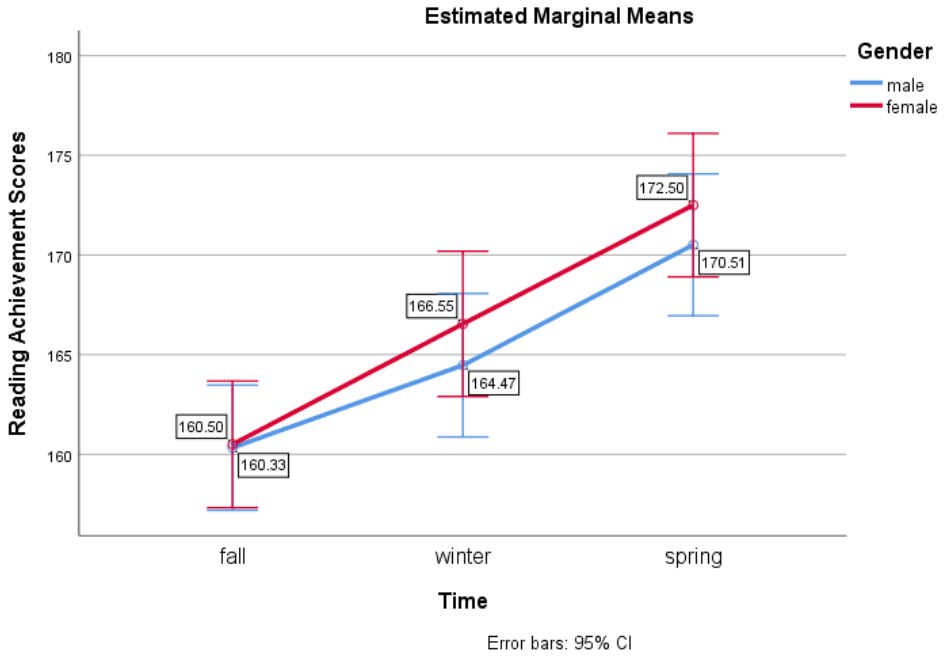

Figure 3. Means with error bars for ELPA21 Beginning fourth-grade students' reading achievement as a function of gender and change over time.

Because change over time included three test administrations, within-subjects' contrasts were performed. A significant linear contrast existed between fall and winter ($p < .001$, partial $\eta^2 = 0.284$) and between winter and spring ($p < .001$, partial $\eta^2 = 0.370$), both with a large effect size. Figure 3 indicates that, regardless of gender, the students increased significantly over the three test administrations, fall ($M = 160.42$, $SE = 1.12$), winter, ($M = 165.51$, $SE = 1.29$), and spring ($M = 171.51$, $SE = 1.28$).

Hypothesis 4

Hypothesis 4 stated that no significant difference will exist by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 Test for ELPA21 Intermediate fourth-grade students from a school district in Northwest Arkansas. Before conducting the mixed factorial ANOVA to test this hypothesis, the data were screened for outliers and examined for the assumptions of independence of observations, normality, and homogeneity of variances. Table 7 displays the group means and standard deviations for the ELPA21 Intermediate fourth-grade students' reading achievement on the NWEA MAP Growth Reading 2-5 AR 2016 Test.

Table 7

Means, Standard Deviations, and n for ELPA21 Intermediate Fourth-Grade Students' Reading Achievement on the NWEA MAP Growth Reading 2-5 AR 2016 Test as a Function of Gender and Change over Time

Time	Gender	*M*	*SD(SE)*	*N*
Fall	M	185.86	8.03	50
	F	185.28	8.71	50
	Total	185.57	8.34	100
Winter	M	191.56	8.66	50
	F	190.64	7.67	50
	Total	191.10	8.15	100
Spring	M	195.86	7.31	50
	F	195.18	8.81	50
	Total	195.52	8.06	100
Total	M	191.09	(0.91)	150
	F	190.37	(0.91)	150

No subject contributed scores in more than one group due to the design of this study. Box and whisker plot examinations for each set of achievement scores revealed no extreme outliers within the samples. I examined histograms and Shapiro-Wilk statistics for each group across the set of scores to test the assumption of normality. Results of these tests on the six groups indicated that the fall male group, $W(50) = 0.99$, $p = .783$, the fall female group, $W(50) = 0.98$, $p = .386$, the winter female group, $W(50) = 0.97$, $p = .345$, the spring male group, $W(50) = 0.96$, $p = .132$, and the spring female group, $W(50)$

= 0.98, p = .663, were not significant. However, the winter male group, $W(50) = 0.95$, p = .034, was significant and suggested a possible violation of the assumption of normal distribution. Yet, due to the large sample size, histograms were used to provide a better test for normality. The histograms revealed a slight negative skewness and a significant positive kurtosis in the winter male group. Despite these violations of the assumption of normal distribution, analysis of data using ANOVA was deemed appropriate as ANOVA is considered robust to mild violations of the assumption (Leech et al., 2015). Additionally, the Box's M value of 10.16 was associated with a p value of .133, which was interpreted as not significant. Thus, the homogeneity of variances was not violated, and the assumption was met. Mauchly's test of sphericity was conducted to test for homogeneity of covariance, ($\chi 2 = 2.51$, p = .285). The assumption of sphericity was met. The results of the mixed factorial ANOVA with a repeated measure on the last factor are displayed in Table 8.

Table 8

Mixed Factorial ANOVA Results for ELPA21 Intermediate Fourth-Grade Students' Reading Achievement on the NWEA MAP Growth Reading 2-5 AR 2016 Test

Source	*SS*	*df*	*MS*	*F*	*p*	*ES*
Between Groups						
Gender	39.60	1	39.60	0.32	.573	0.003
Error	12108.19	98	123.55			
Within Subjects						
Time	4970.66	2	2485.33	62.93	.000	0.391
Gender*Time	1.53	2	0.76	0.02	.981	0.000
Error	7741.15	196	39.50			

The results of the mixed factorial ANOVA revealed no significant interaction between gender and change over time, $F(2, 196) = 0.02$, $p = .981$, partial $\eta^2 = 0.000$, which is considered a very small effect size (Cohen, 1998). As a result, the null hypothesis for the interaction effect was not rejected. Given that the interaction was not significant, the main effects were examined separately. The between-groups main effect for gender was not significant, $F(1, 98) = 0.32$, $p = .573$, partial $\eta^2 = 0.003$, which is considered a very small effect size. The null hypothesis for the main effect for gender was retained. The results regarding the within-subjects main effect for change over time were significant, $F(2, 196) = 62.93$, $p < .001$, partial $\eta^2 = 0.391$, which is considered a very large effect size. Therefore, the null hypothesis for the main effect of change over

time was rejected. Figure 4 shows the means for reading achievement as a function of gender and change over time.

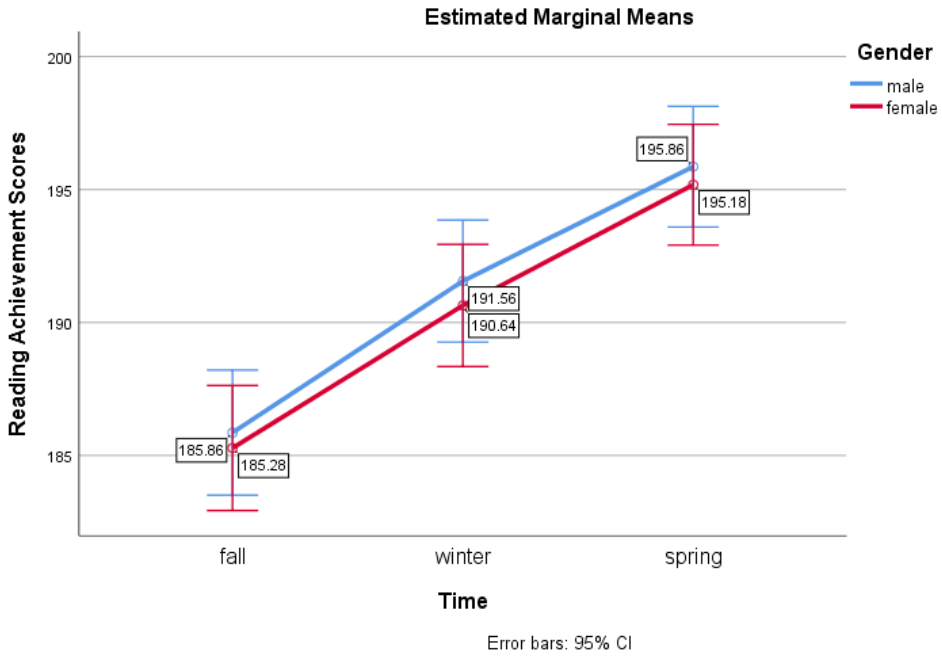

Figure 4. Means with error bars for ELPA21 Intermediate fourth-grade students' reading achievement as a function of gender and change over time.

Within-subjects' contrasts were performed because change over time included three test administrations. A significant linear contrast existed between fall and winter ($p < .001$, partial $\eta^2 = 0.287$) and between winter and spring ($p < .001$, partial $\eta^2 = 0.225$), both with a large effect size. Figure 4 indicates that, regardless of gender, the students increased significantly over the three test administrations, fall ($M = 185.57$, $SE = 0.84$), winter, ($M = 191.10$, $SE = 0.82$), and spring ($M = 195.52$, $SE = 0.81$).

Summary

The purpose of this study was to determine the effects of gender by change over time on reading achievement for ELPA21 Beginning and Intermediate third-grade and fourth-grade students in a school district in Northwest Arkansas. Four 2 x 3 mixed factorial ANOVAs were conducted using gender (male versus female) as the between-subjects factor and change over time (fall, winter, spring) as the within-subjects factor with a repeated measures on the last factor. A summary of the findings for all four hypotheses is presented in Table 9.

Table 9

Summary of Statistically Significant Results for Hypotheses 1-4

Variables by H_o	H1	H2	H3	H4
Gender	.008	.750	.532	.573
Time	.000	.000	.000	.000
Gender*Time	.176	.001	.466	.981

Hypothesis 1 had no significant interaction effect between gender and change over time but did have a significant main effect of gender and time. In general, females scored significantly higher than males. Also, the scores increased significantly over the three time periods, regardless of gender. Hypothesis 2 had no significant main effect for gender but did have a significant main effect of time. However, because a significant interaction effect existed, the results were interpreted considering this finding. A simple main effect analysis was conducted and indicated that the mean of the males was higher

compared to females for the fall and spring but not for the winter. Moreover, for males, a significant difference existed from the winter to the spring, from the fall to the spring, but not from the fall to the winter. For females, a significant difference existed between all periods: fall to winter, winter to spring, and fall to spring. Finally, females made their most significant gains between the fall and the winter, and males made their most significant gains between the winter and the spring. For Hypotheses 3 and 4, both presented no significant interaction between gender and change over time. In addition, the main effect for gender for both hypotheses revealed no significance. However, the main effect of time was significant for both hypotheses, indicating a significant linear increase from fall to winter, as well as winter to spring.

CHAPTER V

DISCUSSION

Educators continually seek to professionally develop instructional techniques to personalize learning according to students' individual needs. Different instructional strategies may be used to help ELs be successful throughout their academic schooling by increasing reading achievement scores and decreasing the achievement gap. By ensuring various instructional strategies are used for different types of learners, educators can prevent a potential gender bias while successfully helping students grow and develop reading skills.

The primary goal was to determine the effects of change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 for ELPA21 Beginning and ELPA21 Intermediate third-grade and fourth-grade students from a school district in Northwest Arkansas. This study was aligned with Krashen's theory as the theory describes the reasoning and rationale the brain must undergo for second language acquisition to occur through five main hypotheses and sub-hypothesis (Krashen, 1981, 1982, 2002, 2018). The review of related literature demonstrated that females typically learn a new language and score higher in reading achievement in comparison to males. The goal of this research was to add to the existing body of literature by examining reading achievement scores by gender and change over time for students learning English in a Northwest Arkansas school district. In Chapter V, I discussed the findings and implications for the four hypotheses, gender, and change

over time. I included recommendations for practices and policies as well as future research considerations.

Findings and Implications

Hypothesis 1

Hypothesis 1 stated that no significant difference will exist by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 Test for ELPA21 Beginning third-grade students from a school district in Northwest Arkansas. The results for the interaction indicated no statistical significance between gender and time. Females increased at a slightly faster rate than males in the third-grade ELPA21 Beginning level group of students, but even though the gap between the genders increased over time, the increase was not enough to create a significant interaction. Therefore, the null hypothesis was retained. However, the results of the main effect of gender revealed a significant difference between males and females with a medium effect size. Females scored significantly higher than males, and the null hypothesis for the gender main effect was rejected. As for the change over time main effect, a significant difference also existed with a very large effect size. The null hypothesis for the within-subjects main effect for change over time was also rejected. Regardless of gender, the mean of each successive testing significantly increased.

Hypothesis 2

Hypothesis 2 stated that no significant difference will exist by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 Test for ELPA21 Intermediate third-grade students from a school district in Northwest Arkansas. The results of the interaction were significant, and

the null hypothesis was rejected. Overall, males in the ELPA21 Intermediate third-grade group scored higher in the fall and spring, and females scored higher in the winter. Moreover, for males, a significant difference existed from the winter to the spring and from the fall to the spring. However, males did not have a significant different between scores from the fall to the winter. For females, a significant difference existed between all periods: fall and winter, winter and spring, and fall and spring. Finally, females made their most significant gains between the fall and the winter, and males made their most significant gains between the winter and the spring. In contrast, the results for the main effect of gender were not significant, and the null hypothesis was retained. The means for males and females, regardless of change over time, were only within a few points of each other; therefore, no significant difference existed between males and females. A statistical significance for change over time did exist as scores for males and females combined significantly increased with each test administration. Therefore, the null hypothesis for the main effect of time was rejected for the third-grade ELPA21 Intermediate group of students.

Hypothesis 3

Hypothesis 3 stated that no significant difference will exist by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 Test for ELPA21 Beginning fourth-grade students from a school district in Northwest Arkansas. The results for the interaction revealed no statistical significance. Similarly, the results for the main effect of gender were also not significant. Both null hypotheses were retained. However, the only significant difference

was for the main effect of change over time. Regardless of gender, the groups significantly increased with each testing. Thus, the null hypothesis was rejected.

Hypothesis 4

Hypothesis 4 stated that no significant difference will exist by change over time between males versus females on reading achievement measured by the NWEA MAP Growth Reading 2-5 AR 2016 Test for ELPA21 Intermediate fourth-grade students from a school district in Northwest Arkansas. The results indicated no significant interaction between the interaction of gender and change over time, and the null hypothesis was retained. When examining the main effect of gender, no significant difference existed, even though males scored slightly higher than females overall. Therefore, the null hypothesis was also retained. However, the results indicated a statistical significance for the main effect of time; therefore, the null hypothesis was rejected. The scores of both groups combined significantly increased over the testing periods.

Grade Level and English Learners

Elementary years provide students with an essential foundation for acquiring reading skills. Students in kindergarten through second grade work closely with phonics and learning how to read (Egan, 2014). However, educators have witnessed a transformation that occurs in third-grade and fourth-grade students between learning to read and reading to learn (Chall & Jacobs, 2003; Hernandez, 2011; Musen, 2010; National School Boards Association, 2015; Sibanda & Baxen, 2018). Students in third and fourth grades need intensive reading instruction to obtain, maintain, and strengthen reading proficiency levels and foundational skills. Reading performance can also be complicated by other factors such as poverty and learning English as a second language,

which makes students appear more susceptible to being low in reading achievement (University of Arkansas-Office for Education Policy, 2018). In addition, because low reading proficiency in the third and fourth grades is highly correlated with negative long-term consequences such as low graduation rates, teachers must be able to identify struggling readers in early elementary grades to serve students and guide them toward success (Hernandez, 2011; Snow et al., 1998). In contrast, King (2017) noted that students experience more academic success later in education when they are reading on grade level by the end of third grade. To reach most students, teachers need to use best teaching practices, implement productive professional development training and strategies, and include effective learning resources. Because reading is an essential skill for academic and career success, teachers should engage learners and encourage students to be successful in academic achievements.

Educators also need to know what techniques work for native and non-native English speakers to learn English effectively. Likewise, teachers need to know how all students are progressing through the process of learning. Krashen (2002, 2018) described the process of learning a new language in five main hypotheses of Krashen's theory, which include acquisition-learning, monitor, natural order, input, affective filter, and the sub-hypothesis of reading. Krashen's theory can be combined with best practices and professional development training. Then, educators can accommodate the needs of ELs through various instructional techniques and strategies.

Krashen's theory has five meaningful hypotheses and a sub-hypothesis that educators can apply in any order when teaching ELs. The acquisition-learning hypothesis combines the engagement of meaningful interactions and communication with

knowledge of the mechanics of formal language (Krashen, 2002, 2018). Educators influence learning by planning, editing, and correcting the language of students, which is known as the monitor hypothesis. According to the natural order hypothesis, all ELs acquire a new language through a natural and predictable order. Because ELs usually learn English in the same predictable way, educators can focus on specific steps to help students. The input hypothesis represents the entirety of Krashen's theory because the hypothesis describes how learners acquire a second language. By reaching one step beyond the learner's current linguistic capability, complex messages can be received, understood, and comprehended. Then, the learner can fully demonstrate language acquisition by speaking in a comprehensible manner. Variables such as motivation, self-confidence, and anxiety play a role in either preventing or allowing comprehensible language acquisition according to the affective filter hypothesis. The reading hypothesis focuses on reading because students obtain higher vocabularies as they read more often (Krashen, 2002, 2018). The higher levels of academic vocabulary lead to academic language proficiency. Through reading, ELs gain vocabulary with comprehensible input (Bilash, 2009; Krashen, 1981, 1982, 2002). Therefore, teachers can involve reading opportunities in the classroom, use direct and explicit instruction, and create positive learning environments. Because reading is a foundational skill in all subjects, all educators can implement and teach reading using best practices for ELs.

Change Over Time

Change over time was an independent variable in this study and was used to examine the third- and fourth-grade students' progress at the ELPA21 Beginning and ELPA21 Intermediate levels, regardless of their gender. The NWEA MAP Growth

Reading 2-5 AR 2016 Test was administered to each group of ELs three times during one academic school year in the fall, winter, and spring. The three administrations of the test allowed another way for educators to implement the monitor hypothesis of Krashen's theory to diagnose areas of need to provide feedback to students (Krashen, 1981, 1982, 2002). In all four groups, students' reading scores, regardless of gender, increased significantly over the three testing periods as Krashen suggested because of the natural order of acquiring a new language (Krashen, 1981, 1982, 2002). Because students' scores increased significantly over the academic school year, the instruction they received was shown to serve both genders equally for the third- and fourth-grade EL students. Students responded to the instruction positively and made significant progress in their reading achievement over the year.

Students were exposed to integrated and designated English language development throughout the school year. Designated English language supported ELs through direct and explicit instruction on the students' EL levels. The curriculum was paced using a natural learning order, like the natural order hypothesis, and students practiced the language with each other, as defined in the acquisition-learning hypothesis (Krashen, 1981, 1982, 2002). Integrated English language development supported comprehension and provided meaningful interactions with native English speakers. Both types of instruction provided meaningful communication with others, which support the acquisition-learning hypothesis of Krashen's theory (Krashen, 1981, 1982, 2002). Ardasheva (2010), Egan (2014), Goldenberg (2008), King (2017), and Loney (2016) conducted studies on implementing best practices and instructional techniques to determine how to teach reading strategies to ELs. Designated English language

development supported reading instruction through direct and explicit teaching of listening, speaking, reading, and writing and most likely led to significantly higher reading achievement levels, according to King (2017). Even though Hernandez (2011) warned that interventions were not as effective after the third grade, the fourth-grade EL students in this study responded positively with significant improvement in scores throughout the school year. In this study, ELs were involved in integrated and designated English language development provided by teachers throughout the entire school district. The modifications and interventions helped increase reading achievement significantly for ELs over the school year.

One main contribution to the success of students includes professional development for teachers. Loney (2016) agreed that by targeting professional development for teachers of ELs in reading, reading achievement would increase. According to King (2017), teachers should be trained to provide quality instruction in reading as students' academic successes have been linked to reading achievement and grade-level proficiency primarily because reading is a foundational skill for learning. When teachers can use best practices effectively to teach ELs metacognitive strategies, along with promoting motivation to read, reading achievement increases as suggested by the affective filter hypothesis in Krashen's theory (Krashen, 1981, 1982, 2002). Ardasheva (2010) suggested that best instructional practices and motivation are two positive contributors linked to higher reading proficiency. Without professionally developed and trained teachers, students would not likely be as successful. The statistically significant increase in reading scores can be attributed to well-trained

teachers using best practices and instructional methods to teach ELs how to be successful readers and learners.

Gender

A potential difference between reading achievement scores was explored in this study between male and female ELs. The study examined the idea that an interaction between gender and change over time might exist. Bembenutty (2006), Callan et al. (2016), and Tang and Neber (2008) found that EL females were more likely to use learning strategies in comparison to EL males, suggesting that females would outperform males in reading achievement scores of ELs. Thus, the results from the literature review indicated that as male and female ELs progressed throughout the school year, the gap between the genders would increase (Schleeter, 2017). However, Hypothesis 1 resulted in the only significant difference between males and females, regardless of change over time. In accordance with the literature review, females did outperform males on reading achievement but only in the ELPA21 Beginning third-grade group of students. Catalán (2003) noted that females used a significantly higher amount of vocabulary strategies, which contributed to reading achievement. Additionally, females tended to increase genre selections as they matured, exposing them to more literature and academic vocabulary (Dutro, 2003; Gambrell & Hunter, 2000). Hypothesis 2 resulted in the only significant interaction between gender and change over time as males scored higher in the fall and spring, and females scored higher during winter testing in the ELPA21 Intermediate third-grade group of students, which contrasted with the literature review. Hypotheses 3 and 4 revealed no significant interaction or main effect of gender. Interestingly, although not a significant difference, ELPA21 Beginning fourth-grade females scored, on average,

slightly higher compared to the males in Hypothesis 3. Although a significant difference did not exist, ELPA21 Intermediate fourth-grade males scored, on average, slightly higher compared to the females in Hypothesis 4.

Integrated and designated English language development instruction helps ELs learn English at a proficiency level according to students' grade levels. Because males and females perceive information differently, according to Catalán (2003), a variety of instructional strategies could be helpful when effectively teaching both genders. Because females tend to use higher levels of vocabulary, males could benefit from vocabulary words taught using the direct instruction of designated English language development approach and from visual supports of vocabulary words when learning new academic language across all subjects in integrated English language instruction (Catalán, 2003). As in the reading hypothesis of Krashen's theory, obtaining and understanding higher levels of academic vocabulary promoted higher levels of reading achievement (Krashen, 2002, 2018). Females are attracted to a wider variety of genres and prefer to engage in conversation (Dutro, 2003; Gambrell & Hunter, 2000). Therefore, educators could provide a variety of genres of books in classroom libraries. Also, educators could provide sentence frames or sentence starters to engage in meaningful and purposeful academic conversations, which could be used during integrated and designated English language development. Instructional strategies work for supporting learning; however, educators must determine which strategies work best for each student, making learning personalized for all.

In general, one of the most significant discoveries in this study was that both grade levels and both ELPA21 levels significantly increased reading achievement scores

over the school year. The significant increase in reading indicated that students were reaching one step beyond their current linguistic capability to receive, understand, and comprehend messages to demonstrate language acquisition, which aligned with the input hypothesis of Krashen's Theory (Krashen, 1981, 1982, 2002). Another significant discovery was that all students, regardless of gender and ELPA21 level, significantly grew in reading achievement. Also, on average, males and females progressed at approximately the same rates. The significant increase in scores was a positive finding and indicated that the instruction was supporting the students in transitioning from learning to read to reading to learn. For the present study, students experienced the integrated and designated English language development models and experienced several instructional strategies that were beneficial for male and female ELs. Students positively responded to the instruction and overall learned at the same rate, which ultimately helped to close a potential achievement gap between males and females in reading achievement, as found in the review of literature (Schleeter, 2017). Most native students learn phonics and how to read early in their educational experience. However, for non-native English speakers, learning phonics and reading English begins the year they enroll in school. The significant increase in reading scores across all hypotheses was noteworthy because ELs were learning, growing, and achieving in reading, regardless of grade level, gender, or ELPA21 level.

Recommendations

Potential for Practice/Policy

The purpose of this study was to determine the effects by change over time between males versus females on reading achievement measured by the NWEA MAP

Growth Reading 2-5 AR 2016 for ELPA21 Beginning and ELPA21 Intermediate third-grade and fourth-grade students from a school district in Northwest Arkansas. The results could have a direct influence on practices for schools with ELs in the state of Arkansas as well as nationwide. First, school districts need to implement or continue the use of integrated and designated English language development instructional methods to reach all students. The use of both methods helps close the achievement gap between ELs and native speakers as well as the potential achievement gap between genders (Schleeter, 2017). Although the focus of this study was on third- and fourth-grade students, schools with students learning English at any grade level could implement instructional strategies including integrated and designated English language development to support ELs. Second, educators could expand the use of these instructional strategies to more grade levels, even reaching into the middle and high school environments. By expanding instructional strategies to all grade levels, teachers ensure that all students are developing and learning at average or above average rates with educational supports in place. Third, school districts should focus their professional development offerings for teachers by emphasizing both integrated and designated English language development instructional strategies. By providing focused professional development opportunities, educators can provide equitable academic achievement for all learners.

Further, the results could have a direct influence on policies for schools with ELs. Policymakers should develop and implement policies to include the mandated use of English language development instructional methods to be used in classrooms with ELs across the state and nation to serve and support students. These policies should include funding and training for teachers to use English language development instructional

methods in classroom environments. Additionally, the policies would further support standards-based learning for ELs. When policymakers support educators to be trained in understanding and using integrated and designated English language development instructional methods, the achievement gap can begin to close, and students can be even more successful.

Future Research Considerations

For this study, the following areas for future research considerations were made.

1. The current study focused on only one academic year of data. Third and fourth grades were chosen because third grade is the year when students transition from learning to read to reading to learn (Chall & Jacobs, 2003; Hernandez, 2011; Musen, 2010; National School Boards Association, 2015; Sibanda & Baxen, 2018). A study over multiple school years on the same group of students could determine a significant difference between the main effects of gender and change over time or on the interaction of the two variables.
2. A future study could attempt to determine if and how ELs at different grade levels develop and respond differently to various instructional strategies. Future researchers could test other grade levels to identify any potential differences between gender and change over time.
3. More research needs to be completed on the role gender plays in different cultures when responding to education and to different instructional strategies.
4. Future researchers might consider why third grade is the year when students transition from learning to read to reading to learn. Researchers could also examine if the third grade is as pivotal for all cultures.

5. Socioeconomic status and other variables could be investigated to determine the effects of different EL students at different grade levels.
6. Researchers could determine if designated and integrated English language development instructional strategies affect achievement in other subject areas beyond reading, such as mathematics, science, and social studies.
7. The present research was limited to a school district in Northwest Arkansas. Future researchers might consider testing students in other school districts for significant differences. School districts without designated and integrated English language development might have different results.
8. Researchers could examine districts that use other instructional models and compare their findings to districts using the designated and integrated English language development instructional strategies.
9. The instrumentation used for this study was the NWEA MAP Growth Reading 2-5 AR 2016 Test. Future researchers might consider a different assessment including but not limited to the ACT Aspire or the English Language Proficiency Assessment for the 21st Century.

Conclusion

The purpose of this study was to determine the effects by change over time between males versus females on reading achievement measured by the Reading 2-5 AR 2016 Test for ELPA21 Beginning and Intermediate third- and fourth-grade students from a school district in Northwest Arkansas. I conducted four 2 x 3 mixed factorial ANOVAs with a repeated measures on the last factor. My findings indicated that change over time was significant for all hypotheses, indicating that despite grade level, ELPA21 level, or

gender, all groups of students tested significantly increased reading achievement scores. Overall, the results aligned with evidence from the literature review for third-grade ELPA21 Beginning students because EL females, on average, scored significantly higher than EL males. However, the results of the other hypotheses for students in ELPA21 Intermediate levels or fourth grade did not support the results from the literature review. Further, the instructional strategies used within the school district studied supported learning for both male and female ELs and did not favor one gender over the other, with only one exception in the ELPA21 Beginning third-grade group of students. Even though most of the literature from other researchers supported the notion that females outperformed males in reading achievement scores, results from three of the four hypotheses indicated that both integrated and designated English language development instructional strategies seemed to close the achievement gap between EL males and females. The results of this study are meaningful to educators and administrators who are concerned about proper supports and instructional strategies for ELs. The EL student population is growing nationwide; therefore, educators and policymakers need to be informed of the benefits that instructional methods and professional development provide to serve ELs best.

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